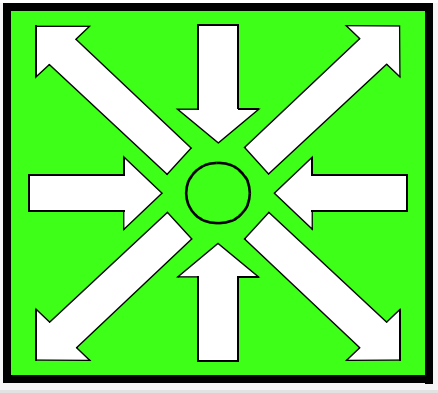
Cisco Stratacom BPX8600 and IGX8400 Series



Supports Management Module SM-CIS1003

APRISMA SPECTRUM® POWERED SOLUTIONS

Device Management

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Contents

INTRODUCTION **5**

Purpose and Scope 5
Required Reading 5
Supported Devices 6
The SPECTRUM Model 6

DEVICE VIEW **8**

Interface Icons 9
Interface Icon Subviews Menu 10
Secondary Address Panel 11
StCom_IF_Port Interface Icons 11
StCom_IF_Port Interface Icon Subviews Menu 16

DEVICE TOPOLOGY VIEW **19**

APPLICATION VIEWS **20**

Main Application View 20
Supported Applications 21
Common Applications 21
StrataCom Application 22
SwitchShelf Config 23
SwitchShelf Slot Info 24
Switch If 27
Connection View 27
Trap Registration 31
Error Status 32
Strm Error Status 32
Port Information - FR Logical Port Config 33
Port Information - FR Logical Port Stats 38
Port Information - Atm Port Config 41
Port Information - Atm Port Queue 44
Port Information - ATM Port Statistics 45
Switch Media - DS1 Interfaces 48
Switch Media -DS3 Interfaces 48
Switch Media - Sonet Interfaces 50
Switch Media - DS1 IF Stats 51
Switch Media - DS3 IF Stats 51
Switch Media - Sonet IF Stats 52
Voice Information - Voice Channel 52
Voice Information - Voice Endpoint 56
Voice Information - Voice EndPt Stats 59
Voice Information - Voice EndPt Map 60
Trunk Information - Frame Relay Trunk 61
Trunk Information - ATM Trunk 62
Trunk Information - Frame Relay Trunk Stat 66
Trunk Information - ATM Trunk Stat 67
ATM Trunk Statistics Packet Table 67
ATM Trunk Statistics Cell Table 68
Stratacom Frame Relay Application 70
Bandwidth Class 70
Endpoint Configuration 72
Endpoint Statistics 78
Stratacom ATM Application 81

Bandwidth Class 81
Endpoint Configuration 85
Endpoint Statistics 98

PERFORMANCE VIEWS 101
Performance View 103
Port Performance View 103

DEVICE CONFIGURATION VIEW 104

MODEL INFORMATION VIEW 105

TRAPS, EVENTS, AND ALARMS 106
Standard Trap Support 106
Device-Specific Trap Support 106
Proprietary Trap Descriptions 117

ADVANCED APPLICATION INTEGRATIONS 120
StrataCom Frame Relay Integration 120
StrataCom Frame Relay Application Endpoint Connection View 121
Stratacom Frame Relay DLCI Port Model 121
Information 121
Port Performance 121
Port Configuration 122
Port Threshold 123
Service Information 123
StrataCom ATM Integration 123
ATM Link Modeling Options View 124
Creating StComATMLink Models 124
Destroying StComATMLink Models 125
Stratacom ATM Link Model 125
Model Information 125
Endpoint Configuration 126
Endpoint Statistics 126
Service Information 126

INDEX 127

Introduction

This section defines the purpose and describes the organization of this document as well as providing a brief description of each section that follows.

This introduction to the Device Management documentation for Cisco StrataCom BPX8600 Series devices contains the following information:

- *Purpose and Scope*
- *Required Reading*
- *Supported Devices*
- *The SPECTRUM Model*

Purpose and Scope

Use this guide as a reference for the SM-CIS1003 SPECTRUM management module which supports the Cisco Stratacom BPX8600 and IGX8400 Series wide-area switches. The documentation describes the icons, menus, and views that enable you to remotely monitor, configure, and troubleshoot Cisco Stratacom BPX8600 and IGX8400 Series devices through software models in your SPECTRUM database.

Only information specific to the supported management module is included under this documentation topic. For general information about device management using SPECTRUM and for explanations of basic SPECTRUM functionality and navigation techniques, refer to the topics listed under *Required Reading*.

Required Reading

Before using this guide, you should understand the functions and navigation techniques of SPECTRUM as described in the documents listed below.

- ***Getting Started with SPECTRUM for Operators***
- ***Getting Started with SPECTRUM for Administrators***
- ***How to Manage Your Network with SPECTRUM***
- ***SPECTRUM Views***
- ***SPECTRUM Menus***
- ***SPECTRUM Icons***

Supported Devices

The Cisco Stratacom BPX8600 and IGX8400 Series of devices are broadband wide-area switches. They offer up to 20 Gbps (in a 15-slot chassis) of high throughput switching for multiple traffic types including voice, data, and image. The Cisco StrataCom offers backbone ATM switching and integrates user services over broadband and narrowband ATM trunks.

Table 1 displays the Cisco StrataCom devices supported by the SM-CIS1003 Management Module.

Table 1: Supported Devices

Device Type
StrataComBPX
CiscoIGX8410
CiscoIGX8420
CiscoIGX8430
CiscoIGX8450
CiscoBPX8620
CiscoBPX8650
CiscoBPX8680

The SPECTRUM Model

SPECTRUM uses a single device model type, **StrataCom**, for modeling any of the Cisco Stratacom BPX8600 and IGX8400 Series devices.

This section provides an overview of the services that the Cisco StrataCom supports. StrataCom models are represented in SpectroGRAPH views by Device icons. As Figure 1 shows, the appearance of the Device icon varies slightly depending on the kind of view it appears in.

Figure 1: Small and Large Device Icons

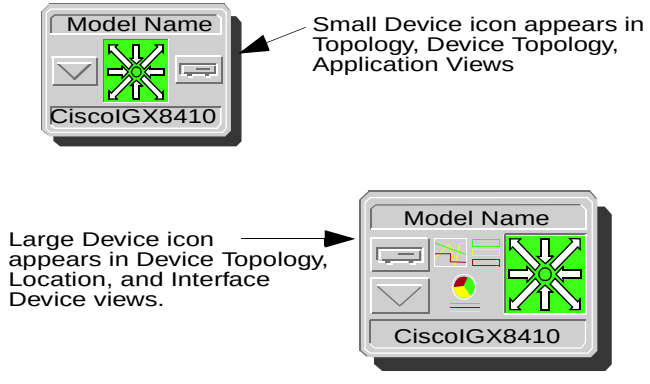
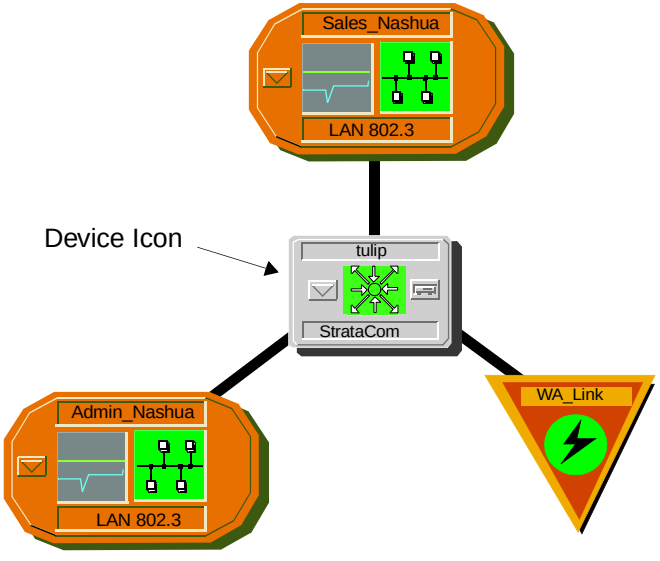

Model Name
CiscoIGX8410
Small Device icon appears in Topology, Device Topology, Application Views
Large Device icon appears in Device Topology, Location, and Interface Device views.
Model Name
CiscoIGX8410

Figure 2 shows a portion of a Topology view in which the Device icon representing the StrataCom model appears surrounded by icons representing the network entities which the device connects - in this case two Ethernet LANs and an Off-Page Reference icon representing a Wide Area Link to a corporate network.

Figure 2: StrataCom Device Icon in Topology View



Through its double-click zones and its Icon Subviews menu, the Device icon is your starting point for accessing the views and other displays that let you perform device management activities such as those listed in the Tasks section immediately following this introduction.

The rest of the documentation for this management module is organized according to view type, as follows.

- *Device View* on Page 8
- *Device Topology View* on Page 19
- *Application Views* on Page 20
- *Performance Views* on Page 101
- *Device Configuration View* on Page 104
- *Model Information View* on Page 105

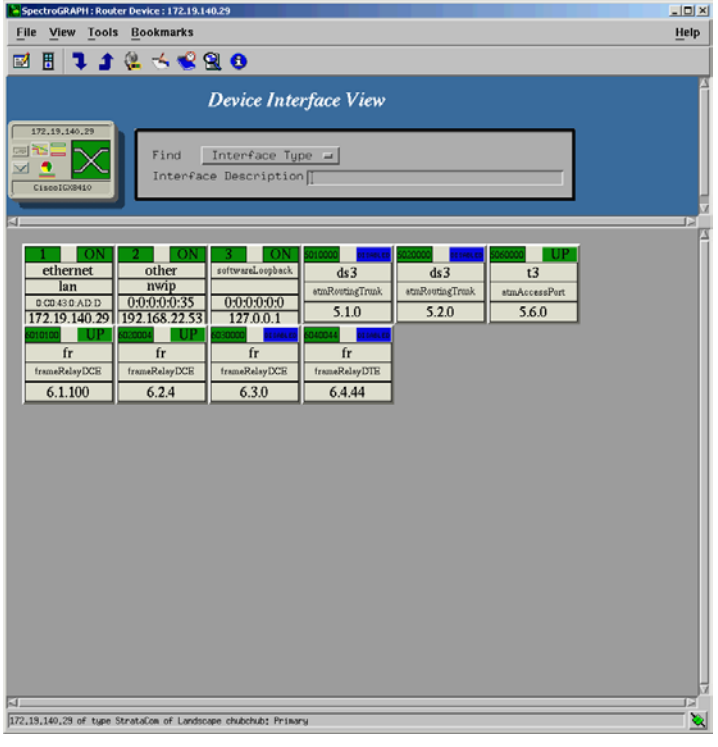
Device View

This section describes the Device views accessible from the Icon Subviews menu for the Cisco Stratacom BPX8600 and IGX8400 Series of devices.

This view (Figure 3) uses icons and labels to represent the device and its components, such as modules, ports, and applications. The view provides dynamic configuration and performance information for each of the device's serial and network I/O ports, which are represented by Interface icons in the bottom panel of the view. The middle panel of the view displays a Device icon, which lets you monitor the device operation and access other device-specific views.

- *Interface Icons* (Page 9)
- *StCom_IF_Port Interface Icons* (Page 11)

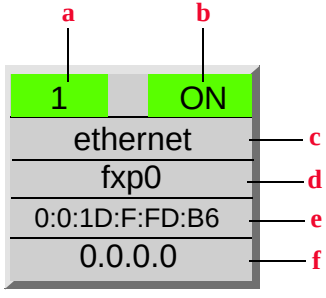
Figure 3: StrataCom Device View



Interface Icons

Figure 4 shows a close-up of an Interface icon from the Device view. Most of the informational labels on the icon also provide double-click access to other views, as explained in the following label descriptions.

Figure 4: Interface Icon



a *Interface Number Label*

b *IF Status Label*

c *Interface Type Label*

d *Network Type Label*

e *Physical Address Label*

f *IP Address Label*

Interface Number Label

This label displays the interface (port) number.

IF Status Label

This label displays the current status of the interface for the primary application selected, e.g., Gen Rtr App or MIB-II App. Table 2 lists the possible label color representations. Note that the color of the label also depends on the interface's current Administrative Status, which you set in the Interface Configuration view. This view can be accessed by double-clicking the Interface Type label.

Table 2: Interface Status Label Colors

Color	Operational Status	Administrative Status	Label Text
Green	up	up	ON
Blue	down	down	OFF
Yellow	down	up	OFF
Red	testing	testing	TEST

Interface Type Label

This label identifies the interface media type (Ethernet, ATM, etc.). Double-click this label to access the Interface Configuration view. See the ***SPECTRUM Views*** documentation.

Network Type Label

This label identifies the type of network to which the interface is connected. Double-click the label to open the Model Information view for the interface.

Physical Address Label

This label displays the physical (MAC) address of the interface. Double-click this label to open the Address Translation Table (AT).

IP Address Label

This label displays the IP address for the interface. Double-click this label to open the *Secondary Address Panel* (Page 11), which lets you change the address and mask for the interface.

Interface Icon Subviews Menu

Table 3 lists the device-specific interface Icon Subviews menu options and the views to which they provide access.

Table 3: Interface Icon Subviews Menu

Option	Accesses the...
Detail	Interface Detail view, which displays packet, error, and discard breakdown statistics for the interface.
IF Configuration	Interface Configuration view (see ***SPECTRUM Views***).
Sub-Layer Information	Sub-Layer Information view (see ***SPECTRUM Views***.
Address Translation Table	Address Translation Table (AT) (see ***SPECTRUM Views***).
Secondary Address Panel	*Secondary Address Panel* (Page 11).
Thresholds	Interface Threshold view, which lets you set the on/off alarm thresholds for load, packet rate, error rate, and % discarded for the interface.
Model Information	*Model Information View* (Page 105).
Trap Configuration	Interface Trap Configuration view (see ***How to Manage Your Network with SPECTRUM***).

Secondary Address Panel

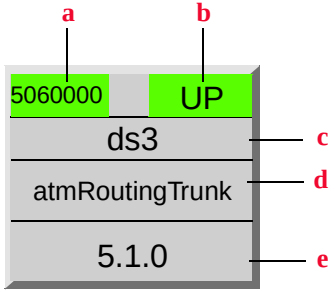
Access: *From the **Icon Subviews** menu for the Interface icon in the Device view, select **Secondary Address Panel**.*

This panel provides a table of IP addresses and masks obtained from the Address Translation table within the device's firmware. You can change the current address displayed in the **IP Address** field by selecting an entry from the table in this panel and clicking the **Update** button.

StCom_IF_Port Interface Icons

Figure 5 shows a close-up of an StCom_IF_Port interface icon from the Device view. Most of the informational labels on the icon also provide double-click access to other views, as explained in the following label descriptions.

Figure 5: Interface Icon



a *Interface Number Label*

b *IF Status Label*

c *Media Type Label*

d *Service Type Label*

e *Slot.Port.Subport Identifier Label*

Interface Number Label
This label displays the interface (port) number.

IF Status Label
This label displays the current status of the interface. The StCom_IF_Port status displayed is determined by the matrices provided in Table 4, Table 5, and Table 6. The matrix used depends on the MIB table a given port model is from.

Media Type Label
This label identifies the media layer type used by this interface, such as ds1, ds3, or sonet.

Service Type Label
This label identifies the configured service type for this logical interface.

Slot.Port.Subport Identifier Label
This label displays the Slot.Port.Subport identifier of the interface. Double-click this label to open the *Model Information View* for the StCom_IF_Port.

Table 4: Interface Status Label Colors (switchIfTable)

switchIfAdminStatus	switchIfOperStatus	Port Status Label/Color
down(2) added(6) deleted(7)	Any	“DISABLED”/BLUE
up(1) setbitmap(8) assignScTmplt(9)	testing(3) added(6)	“DISABLED”/BLUE
up(1) setbitmap(8) assignScTmplt(9)	down(2)	“DOWN”/YELLOW
up(1) setbitmap(8) assignScTmplt(9)	up(1)	“UP”/GREEN
up(1) setbitmap(8) assignScTmplt(9)	dormant(5)	“DORMANT”/YELLOW
up(1) setbitmap(8) assignScTmplt(9)	unkown(4) (undefined value)	“UNKNOWN”/YELLOW
Unreachable	Unreachable	GRAY

Table 5: Interface Status Label Colors (frLportPortTable)

frLportAdminStatus	frLportOperStatus	Port Status Label/Color
down(2) add(5) delete(6)	Any	“DISABLED”/BLUE
up(1) modify(3) writeOnly(4)	inactive(1) looped(3)	“DISABLED”/BLUE
up(1) modify(3) writeOnly(4)	failed(4)	“DOWN”/YELLOW
up(1) modify(3) writeOnly(4)	active(1)	“UP”/GREEN
up(1) modify(3) writeOnly(4)	unkown(5) (undefined value)	“UNKNOWN”/YELLOW
Unreachable	Unreachable	GRAY

Table 6: Interface Status Label Colors (atmPortTable)

atmPortAdminStatus	atmPortOperStatus	Port Status Label/Color
down(2)	Any	“DOWN”/YELLOW
up(1) modify(3) writeOnly(4)	inactive(1) looped(3)	“DISABLED”/BLUE
up(1) modify(3) writeOnly(4)	failed(4)	“DOWN”/YELLOW
up(1) modify(3) writeOnly(4)	active(1)	“UP”/GREEN
up(1) modify(3) writeOnly(4)	unkown(5) (undefined value)	“UNKNOWN”/YELLOW
Unreachable	Unreachable	GRAY

StCom_IF_Port Interface Icon Subviews Menu

The interface Icon Subviews menu options available for StCom_IF_Port icons differ depending on the MIB table and media type of the port the icon represents. Table 7 (Page 17) lists the device-specific interface Icon Subviews menu options and the views to which they provide access.

Table 7: Interface Icon Subviews Menu

MIB Table	Media Type	Available Options	Acceses the...
switchIfTable	DS1	DS1 IF Configuration	IF Configuration view for this port (see *Switch Media - DS1 Interfaces* on Page 48)
		DS1 IF Statistics	*Switch Media - DS1 IF Stats* on Page 51
		Model Information	*Model Information View* on Page 105
switchIfTable	DS3	DS3 IF Configuration	IF Configuration view for this port (see *Switch Media -DS3 Interfaces* on Page 48)
		DS3 IF Statistics	*Switch Media - DS3 IF Stats* on Page 51
		Model Information	*Model Information View* on Page 105
switchIfTable	Sonet	Sonet IF Configuration	IF Configuration view for this port (see *Switch Media - Sonet Interfaces* on Page 50)
		Sonet IF Statistics	*Switch Media - Sonet Interfaces* on Page 50
		Model Information	*Model Information View* on Page 105
frLportCnfTable	N/A	Frame Relay Port Configuration	IF Configuration view for this port (see *Port Information - FR Logical Port Config* on Page 33)
		Frame Relay Port Statistics	*Port Information - FR Logical Port Stats* on Page 38
		Model Information	*Model Information View* on Page 105

Table 7: Interface Icon Subviews Menu (Continued)

MIB Table	Media Type	Available Options	Acceses the...
atmPortTable	N/A	ATM Port Configuration	IF Configuration view for this port (see *Port Information - Atm Port Config* on Page 41)
		ATM Port Received Stats	*Port Information - ATM Port Statistics* on Page 45
		ATM Port Transmitted Stats	*Port Information - ATM Port Statistics* on Page 45
		ATM Port Error Stats	*Port Information - ATM Port Statistics* on Page 45
		Model Information	*Model Information View* on Page 105

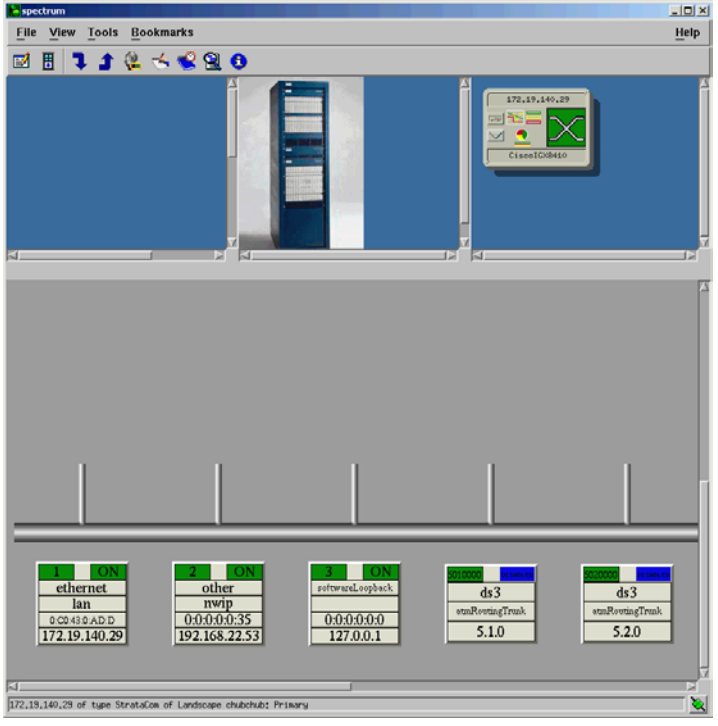
Device Topology View

This view describes the Device Topology view that is accessible from the Icon Subviews menu for the Cisco Stratacom BPX8600 and IGX8400 Series of devices.

This view (Figure 6) displays interface icons that represent the connections between the Cisco StrataCom and the devices it is connected to. The Interface Icons provide the same information and menu options as those described in the Device view.

For more general information about the Device Topology (DevTop) view, see ***SPECTRUM Views*** documentation.

Figure 6: StrataCom Device Topology View



Application Views

This section describes the main Application view and the associated application-specific subviews available for models of Cisco Stratacom BPX8600 and IGX8400 Series of devices in SPECTRUM.

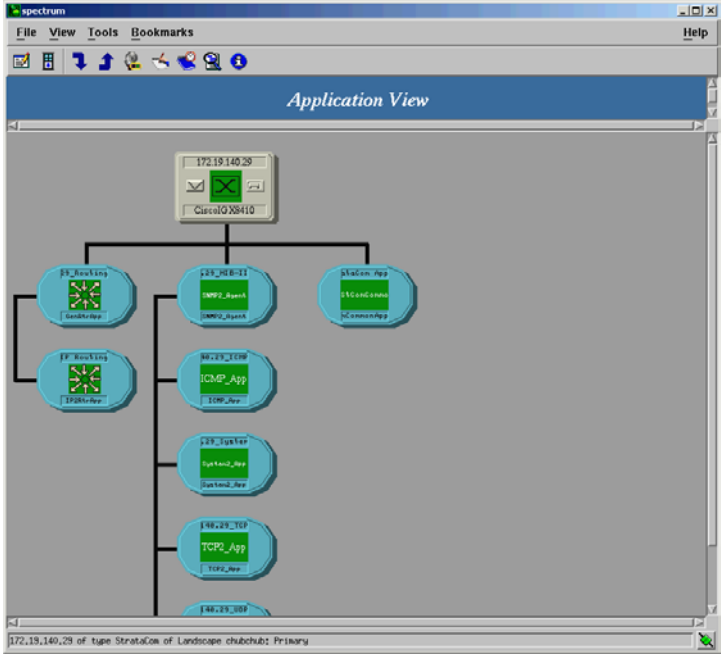
Access: *From the* ***Icon Subviews*** *menu for the Device icon, select* ***Application****.*

Main Application View

When a device model is created, SPECTRUM automatically creates models for each of the major and minor applications supported by the device. The main Application view identifies all of these application models, shows their current condition status, and provides access to application-specific subviews. Figure 7 shows this view in the Icon mode. If you prefer the List mode, which displays applications as text labels, select **View > Mode > List**.

For more information on this view, refer to the ***MIBs and the Application View*** documentation.

Figure 7: Main Application View



Supported Applications

SPECTRUM's applications can be grouped within two general categories as follows:

- Applications associated with non proprietary MIBs.
- Applications associated with device-specific MIBs.

Common Applications

For the most part, these applications represent the non proprietary MIBs supported by your device. Listed below (beneath the title of the SPECTRUM document that describes them) are some of the common applications currently supported by SPECTRUM.

Note: The documents listed below (in bold font) are available for viewing at: www.aprisma.com/manuals/

- ***Routing Applications***
  - Generic Routing
  - Repeater
  - AppleTalk
  - DECnet
  - OSPF
  - OSPF2
  - BGP4
  - VRRP
- ***Bridging Applications***
  - Ethernet Special Database
  - Spanning Tree
  - Static
  - Transparent
  - PPP Bridging
  - Source Routing
  - Translation
  - QBridge
- ***MIB II Applications***
  - SNMP
  - IP
  - ICMP
  - TCP
  - System2
  - UDP
- ***Transmission Applications***
  - FDDI
  - Point to Point
  - DS1
  - DS3
  - RS-232
  - WAN

- Frame Relay
- Token Ring
- Ethernet
- Fast Ethernet
- rfc1317App
- rfc1285App
- rfc1315App
- 802.11App
- SONET

- ***Technology Applications***
  - APPN
  - ATM Client
  - DHCP
  - PNNI
  - rfc1316App
  - DLSw

The following device-specific applications are described in the remainder of this section:

- *StrataCom Application* (Page 22)
- *Stratacom Frame Relay Application* (Page 70)
- *Stratacom ATM Application* (Page 81)

StrataCom Application

This section describes the device-specific StrataCom application. The StrataCom application is supported by the **StComCommonApp** model type. Table 8 lists the application-specific subviews available from the Icon Subviews menu for this application. Descriptions of the subviews follow this table.

Table 8: Application Icon Subviews Menu Selections

Option	Opens the...
SwitchShelf Config	SwitchShelf Configuration view (Page 23).
SwitchShelf Slot Info	SwitchShelf Slot Information view (Page 24).
Switch If	Switch IF Table view (Page 27).
Connection View	Connection view (Page 27).
Trap Registration	Trap Registration view (Page 31).
Error Status	Error Status view (Page 32).
Strm Error Status	Strm Error Status view (Page 32).
Port Information	Frame Relay Logical Port Configuration Tables view, Frame Relay Logical Port Statistics Table view, ATM Port Configuration Table view, ATM Port Egress Queue Table view, and the ATM Port Statistics Table view (Page 33).

Table 8: Application Icon Subviews Menu Selections (Continued)

Option	Opens the...
Switch Media	DS1 Interfaces view, DS3 Interfaces Table view, Sonet Interface view, DS1 Interface Statistics Table view, DS3 Interface Statistics Table view, and Sonet Interface Statistics view (Page 48).
Voice Information	Voice Channel view, Voice Endpoint view, Voice Endpoint Statistics view, and Voice Endpoint Map view (Page 52).
Trunk Information	Frame Relay Routing Truck view, ATM Trunk view, Frame Relay Trunk Packet Statistics view, and ATM Trunk Statistics view (Page 61).
Model Information	Model Information view described in ***SPECTRUM Views***.

SwitchShelf Config

This view provides you with variables used to manage the switch shelf-wide configuration.

To access this view, select **Switchshelf Config** from the **Icon Subviews** menu for the **StComCommonApp**. This view will display the following information:

Master Stats
The IP address of the master statistics collection management workstation.

TFTP Coll Intvl
The current TFTP statistics collection file interval that can be configured on the switch.

TFTP Bckt Intvl
The current TFTP statistics collection bucket interval that can be configured on the switch.

TFTP Time
The current time for TFTP statistics collection. This field replaces the functionality originally supplied by the daytime handler application.

Software Error
This field notifies you that a switch software error has been logged on this shelf.

Card Error
This field notifies you that a switch card error has been logged on this shelf.

SEnet IPAddr
The switch Ethernet interface IP address.

SEnet IPMask
The switch Ethernet interface IP address mask.

SEnet Mac Addr
The switch Ethernet interface MAC address.

SEnet Gw Addr
The switch Ethernet interface gateway address.

SNet IPAddr
The switch network interface IP address.

SNet IPMask
The switch network interface IP address mask.

SNet Node Name
The switch network node name.

SNet Node Number
The switch network node number.

Domain Number
The switch network domain number.

Node Type
The switch network node type.

Alarm Status
The switch alarm status.

Prim Sw Revision
The switch primary software revision.

Sec Sw Revision
The switch secondary software revision.

Time Zone
The switch configured time zone.

Rebuild Status
This field is used by the INS to determine if the switch shelf has experienced a rebuild. This field also serves as the heartbeat mechanism.

Junction Node
The flag indicating whether the node is a junction node.

VC Poll Rate
The VC (Virtual Circuit) polling rate (in minutes). This system-wide field, which can be configured via CLI command “cnfsysparm,” is used to specify the period for the switch to poll connection statistics.

SwitchShelf Slot Info

This view provides you with information that is used to manage the switch shelf card cage information. The table is indexed by slot. The objects in this table can be grouped into five catagories:

- Card Y-redundancy information
- Card status
- Front card information
- Back card information
- Processor card-specific information (applicable only to processor cards)

To access this view, select **Switchshelf Slot Info** from the **Icon Subviews** menu for the **StComCommonApp**. This view will display the following information:

Index
The slot number for the switch shelf slot information table.

Y-Redundancy
The card Y-redundancy status.

Y-Red Slot
The associated slot for this card's Y-redundancy. The status for this field is:

- Secondary slot index - if the slot is a primary slot.
- Primary slot index - if the slot is a secondary slot.
- Ignored - if the slot is null.

Card Status
The current card status. Values are: Active, Empty, Standby.

Card Fail
The card failed flag. Values are: True or False.

Fail Intermit
The card failed intermittently flag. Values are: True or False.

SelfTest Fail
The card self-test failed flag. Values are: True or False.

SelfT Fail Int
The card self-test failed intermittently. Values are: True or False.

Bus Fail
The card bus failed flag. Values are: True or False.

Front Card Type
The front card type.

Front Serial
The front card serial number.

Back Installed
The flag indicating if the back card is installed.

Back Type
The back card type. Values are: True or False.

Back Serial
The back card serial number.

RAM Version
The RAM version ID of the processor card. Since this field is applicable only to processor cards, for other card types a null string will be returned.

ROM Version
The ROM version ID of the processor card. Since this field is applicable only to processor cards, for other card types a null string will be returned.

BRAM Version
The BRAM version ID of the processor card. Since this field is applicable only to processor cards, for other card types a null string will be returned.

BOOT Id
The BOOT ID of the processor card. Since this field is applicable only to processor cards, for other card types a null string will be returned.

RAM Size
The RAM size of the processor card in Megabytes. Since this field is applicable only to processor cards, for other card types -1 will be returned.

FEPROM Size
The Flash EPROM size of the processor card in Megabytes. Since this field is applicable only to processor cards, for other card types -1 will be returned.

BRAM Size
The BRAM size of the processor card in Megabytes. Since this field is applicable only to processor cards, for other card types -1 will be returned.

Front Rev
The hardware and firmware revision of the front card.

Back Rev
The hardware revision of the back card.

Activate Time
This gives the time stamp of the last time the card was reset.

Ft Num Port
Number of ports supported by the front card. This is for BXM only.

Ft Queue
Size of the Egress/Ingress Queue memory available on the card. This field is for BXM only.

Ft Line Format
Front line format. This field is for BXM only.

Ft Channel
Number of channels supported by the front card. This field is for BXM only.

Bk Num Port
Number of ports supported by the back card. This field is for BXM only.

Bk Line Format
The back card line format.

Bk Sonet Mode
The sonet mode (BXM only), where “smf” is single-mode format, “mmf” is multi-mode format, and “smflr” is single-mode format long reach. This field is for BXM only.

ForeSight
If the card supports ForeSight, for line card only. Values are: Yes or No.

Mux Bus Util
The percentage of the Muxbus utilization. This field is defined for FRP, FRM, and UFM module on IPX/IGX only. For other cards, the utilization is “-1.”

Switch If

The Switch IF (Interface) Table provides you with a list of ports and subports.

To access this view, select **Switch IF** from the **Icon Subviews** menu for the **StComCommonApp**. This view will display the following information:

IF Number
The interface number is the index for the Switch Interface Table, as well as the Switch Media Tables and the Trunk Service Tables.

Slot
The slot number on the Switch Interface Table.

Port
The port number on the Switch Interface Table.

Subport
The subport number, used to identify virtual trunks.

Media Type
The type of interface. This field is normally used to provide information about a media layer, such as ds1, ds3, or sonet.

Service
User requested service for logical interface table row.

Adm Status
User requested state for logical interface table row. Values are: Up, Down, Add, or Delete.

Oper Status
The current state for logical interface table row.

Connection View

This view describes all the connections associated with this managed entity. The endpoints (virtual circuits) related to these connections are defined in connection type-specific tables.

To access this view, select **Connection View** from the **Icon Subviews** menu for the **StComCommonApp**. This view will display the following information:

Next Endpoint Index
This field contains an appropriate value to be used when creating entries in the connection specific endpoint tables (e.g. Frame Relay Endpoint Table). A value of minus one (-1) indicates that no unassigned entries are available. To obtain the Next Endpoint Index value for a new entry, the manager issues a management protocol retrieval operation to obtain the current value of this field. After each retrieval, the agent should modify the value to the next unassigned index.

Index
The connection table index for this connection.

Local VC Endpt Desc
The description for the local VC endpoint. Contains information about the domain, nodename, slot, port, and address value for the endpoint.

Type
The connection type.

Other Index
The remote node's connection table index for this connection endpoint.

Remote VC Endpt Desc
The description for remote VC endpoint. Contains information about the domain, nodename, slot, port, and address value for the endpoint.

Master Flag
Specifies whether this endpoint is the owner of the connection.

Class Of Service
A class of service for this connection. The lower the class value, the higher the routing priority of the connection.

Group Flag
Specifies whether this is a grouped connection. In the grouped connection case, the Connection First Endpoint Pointer object is a pointer to a list of endpoints in this group.

Admin Status
The requested state for connection. Values are: Up, Down, Modify, WriteOnly, CreateGroup, DeleteGroup.

Oper Status
The actual state of the connection. If the state is failed, then look to the objects No Route Found

Failure and Bump Failure to determine reason for failure.

No Route Found
The connection is failed because no route to the remote endpoint could be found.

Bump Failure
The connection is failed because of insufficient bandwidth to route to the remote endpoint. This may have also been caused because a higher priority connection took this connection's bandwidth. A higher priority connection is one with the lowest Class Of Service (COS).

Endpt Pointer
The pointer to endpoint specific information. Using this pointer the user can obtain configuration and statistical information about the connection.

Current Route Description
Describes the current route being used by this connection. This descriptor gives information about the domain, nodename, slot and possibly a port and virtual trunk number for each hop in the route.

Preferred Route Description
Describes the preferred route being used by this connection. This descriptor gives information about the domain, nodename, slot, and possibly a port for each hop in the route.

Mst Pkt Load
This field provides the minimum packet load available on the current path of this connection. This field is determined by comparing available bandwidth on every trunk on which the connection is currently routed and reporting the minimum available bandwidth. For interdomain connections this value represents available bandwidth through all domains. This variable is meaningful for routed connections only. These values are returned in packets per second.

Mst Cell Load
This field provides the minimum cell load available on the current path of this connection. This field is determined by comparing available bandwidth on every trunk on which the connection is currently routed and reporting the minimum available bandwidth. For interdomain connections this value represents available bandwidth through all domains. This field is meaningful for routed conections only.

Mst BData A Cmax
This field provides the minimum BDate A Cmax available on the current path of this connection. This field is determined by comparing available BData A Cmax on every trunk on which the

connection is currently routed and reporting the minimum available. For inter domain connections this value represents available BData A Cmax through all domains.

Mst BData B Cmax
This field provides the minimum BDate B Cmax available on the current path of this connection. This field is determined by comparing available BData B Cmax on every trunk on which the connection is currently routed and reporting the minimum available. For inter domain connections this value represents available BData B Cmax through all domains.

Slv Pkts Load
This field provides the minimum packet load available on the current path of this connection. This field is determined by comparing available bandwidth on every trunk on which the connection is currently routed and reporting the minimum available bandwidth. For inter domain connections this value represents available bandwidth through all domains.

Slv Cell Loads
This field provides the minimum cell load available on the current path of this connection. This field is determined by comparing available bandwidth on every trunk on which the connection is currently routed and reporting the minimum available bandwidth. For inter domain connections this value represents available bandwidth through all domains.

Slv BData A Cmax
This field provides the minimum BData A Cmax available on the current path of this connection in slave->master direction. This field is determined by comparing available BData A Cmax on every trunk on which the connection is currently routed and reporting the minimum available. For inter domain connections this value represents available BData A Cmax through all domains.

Slv BData B Cmax
This field provides the minimum BData B Cmax available on the current path of this connection in slave->master direction. This field is determined by comparing available BData B Cmax on every trunk on which the connection is currently routed and reporting the minimum available. For inter domain connections this value represents available BData B Cmax through all domains.

Round Trip Delay
The value of this field is the calculated round trip delay (measured in milliseconds) of this connection. This field is calculated for Foresight connections only.

Group Description
The description for the group identifier. This describes the connection group name.

Entry Creation

Located at the bottom of the Connection Table, click on this button to open the Connection Entry Creation view where you can make changes to the following table entries:

- Next ID
- Local VC Endpt Desc
- Remote VC Endpt Desc
- Class of Service
- Admin Status
- Preferred Route Description
- Group Desc

Trap Registration

The Trap Registration is the switch platform registration table that provides access to trap events. This table currently supports a maximum of ten (10) SNMP managers registered to receive SNMP traps from the switch.

To access this table, select **Trap Registration** from the **Icon Subviews** menu for the **StComCommonApp**. This table will display the following information:

IP Address
The IP address of the SNMP manager that is interested in receiving trap events. All events are sent to this IP address. If this field is set to zero, the entire entry is deleted.

Admin Status
This field provides the actions available on this table.

Source IP
This IP address is sent in the SNMP TRAP PDU as the source of the trap. The SNMP manager can optionally set this to any value, but if not set the agent will choose its value.

UDP Port
This UDP port is used for transmission of all SNMP TRAP PDUs to the SNMP manager. It can either be set by the SNMP manager or the default SNMP TRAP port will be used.

Sequence Num
This is the sequence number to be used when the next SNMP TRAP PDU is encoded and transmitted to this SNMP manager.

Entry Creation

Located at the bottom of the Trap Registration Table, clicking on this button opens the Trap Registration Entry Creation view where you can make changes to the following table entries:

- IP Address
- Admin Status
- Src Ip Address
- Udp Port

Error Status

The Error Status Table is used to maintain status information about SNMP SET requests from a manager. When an SNMP SET completes, an entry is created. In addition to successful status, the manager is provided information associated with any failed requests. This table is indexed by request ID. The request ID is the SNMP PDU identifier associated with the failed request.

To access this view, select **Error Status** from the **Icon Subviews** menu for the **StComCommonApp**. This view will display the following information:

Last Index in Error Status

If at least one entry exists in the error status table for the given manager, the value of this object contains the index corresponding to the last entry. If no entry exists in the error status table for the given manager the value of this object is -1.

Request Id

This field contains the PDU (Protocol Data Unit) request ID associated with the error.

Error Status Code

This field contains an error status code used by the manager to take automated corrective actions when requests encounter failures. If no error is encountered, a successful status is provided.

Status Description

This field contains error status information for failed SETS to one or more objects in Frame Relay Endpoint Table and/or vc Table. This field is updated only on failed SETS. Since the SNMP standard allows only limited number of error status returns, the managers can retrieve this variable to get additional information on a failed SET. Typically, this field will contain information specifying date, type of operation (SET or GET), current SNMP table and additional error information.

Strm Error Status

The Strm Error Status Table is used to maintain status information about SNMP SET requests from a manager. It contains a list of error statuses

for a given SNMP manager. Currently a limit of ten (10) entries are imposed on this table. Each manager is allowed to access its own table. Individual manager access is determined by IP address.

To access this view, select **Strm Error Status** from the **Icon Subviews** menu for the **StComCommonApp**. This view will display the following information:

Last Index in Strm Error Status

If at least one entry exists in the error status table for the given manager, the value of this object contains the index corresponding to the last entry. If no entry exists in the error status table for the given manager the value of this object is -1.

Request Id

This field contains the PDU (Protocol Data Unit) request ID associated with the error.

Error Status Code

This field contains an error status code used by the manager to take automated corrective actions when requests encounter failures. If no error is encountered, a successful status is provided.

Status Description

This field contains error status information for failed SETS to one or more objects within a table. This field is updated only on failed SETS. Since the SNMP standard allows only limited number of error status returns, the managers can retrieve this variable to get additional information on a failed SET. Typically, this field will contain information specifying date, type of operation (SET or GET), MIB table associated with the error, and detailed text regarding the failure.

Port Information - FR Logical Port Config

The Frame Relay Logical Port Configuration Tables provide detailed views of the logical ports available on the switch and provide the following areas of information on a per port basis:

- Port identification
- Current admin and operation status
- Port-specific configuration
- LMI-related configuration
- Port error status
- Pointer (s) to other table

To access this table, select **Port Information -> FR Logical Port Config** from the **Icon Subviews** menu for the **StComCommonApp**. This table is divided into two tables, Status Table and Threshold Table, which display the following information:

Status Table

Slot
The slot number for the port.

Port
The port number for the port.

Port DLCI
Port DLCI for Frame Forwarding (FRI subrate interface only) - Get Operation. If the network manager attempts to GET this object from a T1/E1 port, SNMP_OBJ_NA (Object Not Applicable -1) is returned.

Admin
The requested state for logical port table row. Values are: Up, Down, Configure, Add, and Delete a Frame Relay Logical port.

Oper
The actual state of the logical port.

Port Speed
The baud rate of the port.

Clock Type
The type of port clock.

Port Type
The type of FRP subrated port.

VC Count
The number of virtual connections that terminate on this port.

First VC
The object identifier (OID) denoting the first endpoint associated with this port. The management station can retrieve all the information about the first connection by reading from the row pointed to by this OID.

Aggregate Channels
The number of aggregate channels assigned to this logical port (FRI T1/E1 interface only) when the port is added. For subrate ports, this field is always “1.”

Channel Speed
The channel speed (FRI T1/E1 interface only). For FRI subrate interface this field should be set as “NA.”

IDE Map
The flag indicating whether IDE to DE mapping should be performed.

LMI Mode
A numeric value that specifies the current LMI (Local Management Interface) operation mode. The values are shown in Table 9.

Table 9: LMI Operation Modes

Value	Mode Description
1	(UNI) LMI Disabled
2	(UNI) LMI and Asynchronous update disabled
3	(UNI) LMI Disabled
4	(UNI) LMI Enabled but asynchronous update disabled
5	(UNI) LMI Enabled using CFITT 0.933 Annex A parameters
6	(UNI) LMI Enabled using ANSI T1.617 parameters
7	(NNI) LMI Enabled using CCITT 0.933 Annex A parameters
8	(NNI) LMI Enabled using ANSI T1.617 parameters

Note: Option 7 and Option 8 in table are both bidirectional protocols defined by FRF.2 and available only if Frame Relay NNI feature is enabled.

NNI

The flag indicating whether NNI (Network to Network Interface) is active on the specified slot port. This field is always “NO” if the network manager attempts to GET NNI Status from a disabled LMI or LMI No Update port. In other cases, the value of this field is determined by whether the port is configured as NNI or not.

Asyn

A flag indicating whether the IPX should send unsolicited LMI update messages as they appear or wait for the polling from the user device. This field is always “NO” for ports without protocols; otherwise, its value is determined by the asynchronous status of the port. If the network manager attempts to SET this field for a port with none or LMI protocol, an error is reported.

Conn SNA Pri

The flag specifying if the connection SNA priority should be communicated to the user device attached to the port. Since this field is specific to LMI protocols, SNMP_OBJ_NA (-1) is returned if the network manager attempts to GET this field from a non-LMI port. If the network manager attempts to SET this field for a non-LMI port, an error is reported.

Poll Cycle
Full Status Polling Cycle (applicable to NNI FR port only), indicating the interval (in terms of polling cycles) at which a Full Status Report of all PVCs is requested. This interval should be between 1 and 255 polling cycles with a default of 6. If the network manager attempts to GET this field from a port with a protocol other than NNIs, SNMP_OBJ_NA (-1) is returned. If the network manager attempts to SET this field for a port with a protocol other than NNIs (Network-to-Network Interfaces), an error is reported.

EFCI to BECN
This field indicates whether EFCI (Explicit Forward Congestion Indication) to BECN (Backward Explicit Congestion Notification) mapping is enabled.

RTS
The current status of the RTS (Request To Send) lead (subrated FRI only). "NA" is used for T1/E1 FRI. This field is valid only if the port is subrated and is DTE (Data Terminal Equipment). Otherwise, "NA" is returned.

DTR
The current status of the DTR (Data Terminal Ready) lead (subrated FRI only). "NA" is used for T1/E1 FRI. This field is valid only if the port is subrated and is DTE (Data Terminal Equipment). Otherwise, "NA" is returned.

DCD
The current status of the DCD lead (subrated FRI only). "NA" is used for T1/E1 FRI. This field is valid only if the port is subrated and DCE (Data Communications Equipment.) Otherwise, "NA" is returned.

CTS
The current status of the CTS (Clear To Send) lead (subrated FRI only). "NA" is used for T1/E1 FRI. This field is valid only if the port is subrated and DCE (Data Communications Equipment.) Otherwise, "NA" is returned.

DSR
The current status of the DSR (Data Set Ready) lead (subrated FRI only). "NA" is used for T1/E1 FRI. This field is valid only if the port is subrated and is DCE (Data Communications Equipment.) Otherwise, "NA" is returned.

Loopback
The loopback mode.

Ext Conn
The flag indicating if the connection with the external device is lost.

Threshold Table

Slot
The slot number for the port.

Port
The port number for the port.

Port DLCI
Port DLCI for Frame Forwarding (FRI subrate interface only) - Get Operation. If the network manager attempts to GET this object from a T1/E1 port, SNMP_OBJ_NA (Object Not Applicable -1) is returned.

Max Tx Bytes
The maximum bytes queued for transmission from the FRP port.

ECNQ
The port Explicit Congestion Notification threshold. This is the point at which the BECN (Backward Explicit Congestion Notification) and FECN (Forward Explicit Congestion Notification) bits will be set in the communications to the user device.

DE %
The percentage of the queue depth above which frames with the Discard Eligibility bit set will be discarded. An entry of 100% effectively disables DE for the port.

Verification Timer
The link integrity verification timer heartbeat (keep-alive) period. It should be set to 5 seconds more than the heartbeat time in the user device. Default is 15 seconds.

Error
The number of failures in the monitored events that cause the keep-alive process to report an alarm.

Monitored Events
The number of monitored events for the keep-alive process. A port communication fail condition is cleared after this number of successful polling cycles.

Up RNR
The Upper Receiver-Not-Ready (RNR) threshold. This threshold specifies the number of RNR indications from the user equipment before an alarm is cleared for this connection. The default is 75.

Low RNR
The Lower Receiver-Not-Ready (RNR) threshold. This threshold specifies the number of RNR indications from the user equipment before an alarm is cleared for this connection. The default is 75.

Min Flags Frames
The minimum number of flags between frames. All values in the range 1 to 255 are valid and the default is “1.”

OAM
The alarm threshold for number of OAM heartbeat FastPackets missed before propagating A-bit=0. This threshold is applicable to both UNI and NNI Frame Relay ports when the node has FR NNI feature enabled and this FRP firmware supports it.

Link Timer
The Link Integrity Timer (applicable to NNI FR port only), indicating the interval at which a Status Enquiry message is sent. This interval should be between 5 and 30 seconds with a default of 6 seconds.

CLLM Timer
The timer for CLLM messages in CLLM intervals. No CLLM if “0” is configured. If a user configures this value to be greater than “0” then it should be in the range 4 to 35 units in hundredths of a second.

Port Information - FR Logical Port Stats

The Frame Relay Logical Port Statistics tables provide the manager access to the statistics available on the logical ports.

To access this table, select **Port Information -> FR Logical Port Stats** from the **Icon Subviews** menu for the **StComCommonApp**. This table is divided into three tables, Received Statistics Table, Transmitted Statistics Table, and Error Statistics Table which display the following information:

Received Statistics Table

Slot
The slot number for the port.

Port
The port number for the port.

Bytes
The number of received bytes by the frame relay logical port.

Frames
The number of received frames by the frame relay logical port.

Status Enquiry
The number of status enquiry requests received by the port from a user device (LMI/UNI) or NNI port on the other side.

Status
The number of status messages received by the port from the NNI port on the other side.

Update
The number of asynchronous status update messages received by the port from the NNI port on the other side.

CLLM Frames
The frame relay logical port CLLM (Foresight) received frames.

CLLM Bytes
The frame relay logical port CLLM (Foresight) received bytes.

Transmitted Statistics Table

Slot
The slot number for the port.

Port
The port number for the port.

Bytes
The frame relay logical port transmitted bytes.

Frames
The frame relay logical port transmitted frames.

Frames FECNs
The frame relay logical port transmitted FECN frames.

Frames BECNs
The frame relay logical port transmitted BECN frames.

Status
The number of status messages transmitted from the port to a user device (LMI/UNI) or NNI port on the other side.

Update
The number of asynchronous status update messages transmitted from the port to a user device (LMI/UNI) or NNI port on the other side.

Status Enquiry
The number of status enquiry requests transmitted by the port to the NNI port on the other side.

CLLM Frames
The frame relay logical port CLLM (Foresight) transmitted frames.

CLLM Bytes
The frame relay logical port CLLM (Foresight) transmitted bytes.

Discard Queue Frames
The frame relay logical port discard queue transmitted frames.

Discard Queue Bytes
The frame relay logical port discard queue transmitted bytes.

Error Statistics Table

Slot
The slot number for the port.

Port
The port number for the port.

CRC
The frame relay logical port CRC errors on received frames.

Bad Frames
The frame relay logical port frames with illegal formats.

Alignment
The frame relay logical port alignment errors on received frames.

Illegal Lengths
The frame relay logical port illegal length of received frames.

DMA Overruns
The frame relay logical port number of DMA overruns.

Invalid Request
The frame relay logical port invalid request count.

Timeout (LMI UNI)
The frame relay logical port timeout count. Transmit protocol LMI UNI.

Sequence Number
The frame relay logical port sequence number error. Transmit protocol UNI.

CLLM Fail
The frame relay logical port CLLM (Foresight) failures.

LMI Fail Frames
The frame relay logical port LMI failure frames.

LMI Fail Bytes
The frame relay logical port LMI failure bytes.

Port Information - Atm Port Config

The ATM Port Configuration Tables provide you with detailed views of the ATM ports available on the switch.

To access this table, select **Port Information -> ATM Port Config** from the **Icon Subviews** menu for the **StComCommonApp**. This table is divided into two tables, Status Table and Threshold Table, which display the following information:

Status Table

Slot
The slot number for the ATM port.

Port
The port number for the ATM port.

Admin
The requested state for port table row. Values are Up or Down or you may modify the characteristics of the port.

Oper
The actual state of the port.

Type
Indicates whether the ATM ports on the card in this slot are UNI or NNI port. The switch supports this operation only on a per card level, so changing one port changes the others, also. The value of this field cannot be changed if there are active connections on the card.

IF Type
The type of interface for this port.

Speed
The speed of the port in cells per second.

BASIS
Indicates port support for BASIS shelf. The value of this field cannot be changed if there are active connections on the port. For ASI-2 the value of this field is “none.” An attempt to change the value of this field on an ASI-2 will return a BadValue error.

VC Count
The number of virtual connections that terminate on this port, to a maximum of 1024.

First VC
The Object Identifier (OID) denoting the first connection endpoint associated with this port. For current implementation, this OID points to the first connection on the port. It has a NULL OID value if there is no connection on this port. The management station can retrieve all the information about the first connection by reading from the row pointed to by this OID. This OID specifies the first column of the appropriate row in the ATM Endpoint Table.

Metro Header
The Metro Data Cell Header Format applies to T3 non-axis ports. The value of this field is set to "disable" by the switch every time the value of the object ATM Port Axis changes to or from "none."

Mgmt Protocol
Indicates the port management protocol used for this port.

ILMI VPI
The virtual path identifier for the ILMI (Interim Local Management Interface) protocol. For UNI ports it ranges from 0 to 255 and for NNI ports it ranges from 0 to 4095.

ILMI VCI
The virtual channel for the ILMI (Interim Local Management Interface) protocol.

ILMI Poll
Enable ILMI (Interim Local Management Interface) keep-alive polling procedure.

ILMI Trap
If this field is enabled, the ILMI (Interim Local Management Interface) agent will send unsolicited Trap PDUs (Protocol Data Units.)

LMI VPI
The virtual path identifier for the LMI protocol. For UNI ports, it ranges from 0 to 255 and, for NNI ports it ranges from 0 to 4095.

LMI VCI
The virtual channel identifier for the ILMI (Interim Local Management Interface) protocol.

LMI Poll
If enabled, the LMI Poll will send a status enquiry message when the polling timer expires.

Perc Utilization
The values for the percentage utilization field are "disabled" or "enabled." When "disabled," the bandwidth for the connections terminating on the port will be used to determine the port load. When "enabled," the bandwidth for the connection is multiplied by the percent utilization for the connection to determine the port load.

SVC Channels
The number of LCNs (Logical Channel Numbers) partitioned for the SVC (Switch Virtual Circuit) on this port. The range of the LCNs are defined by the ATM Port SVC LCN High and ATM Port SVC LCN Low objects. If this is a non-zero value, then the remaining SVC objects are valid.

Share LCN
Determines whether the LCNs are shared per port basis or per card basis.

SVC Bit Map
The Egress Queues on an ASI line port are partitioned between PVCs and SVCs. This is a bit string value ranging from 0 to 0xffffffff. A bit set indicates that the QBIN is allocated to SVC, and if set to "0", it is allocated to PVCs.

SVC Egress Queue
The Egress Queue pool size on a line port is partitioned between PVCs and SVCs. This field reflects the SVC Egress Queue pool size. The default value is "0." This field is valid if SVC Channels is non-zero.

SVC Bandwidth
The bandwidth on a port is partitioned between SVC and PVC. The bandwidth allocated for SVCs is stored in this object. The default value is "0." This field is valid if Channels is non-zero.

INS Use SVC
This field is set by the INS to indicate that SVC partitioning information is being used by INS. The initial value is notInUse. This field is valid if SVC Channels is non-zero.

INS Use PVC
This field if set by the INS to indicate that PVC partitioning information is valid on this port.

ILMI Addr Reg
If enabled, the ILMI agent will support Address Registration.

Threshold Table

Slot
The slot number for this port.

Port
The port number for this port.

ILMI Poll
The number of seconds between each keep alive poll transmitted by the port.

ILMI Error
The number of keep alive polls that must fail before the port is placed in the failed state.

ILMI Event
Specifies the number of keep-alive polls within which if the polls fail, the port is placed in the failed state.

LMI Link Integ Timer
Link integrity timer for the port.

LMI Update Timer
Update status timer for the port.

LMI Stat Enq Retry
The maximum number of times a Status Enquiry message is retransmitted.

LMI Upd Stat Retry
The maximum number of times an Update Status message is retransmitted.

LMI Poll
A polling timer that, if enabled, a Status Enquiry message is sent when this timer expires.

SVC LCN Low
The lower limit of the LCN value which can be used on this port for SVCs (Switched Virtual Circuits.) This field is valid if Svc Channels is non-zero.

SVC LCN High
The upper limit of the LCN value which can be used on this port. This field is valid if Svc Channels is non-zero.

SVC VPI Low
The lower limit of the VPI value which can be used on this port. The VCIs (Virtual Channel Identifiers) that can be used are from 32 to the largest VCI value allowed on that port. The default value is "100." This field is valid if Svc Channels is non-zero.

SVC VPI High
The upper limit of the VPI value which can be used on this port. The VCIs (Virtual Channel Identifiers) that can be used are from 32 to the largest VCI value allowed on that port. The default value is "100." This field is valid if Svc Channels is non-zero.

SVC VCI Low
This field stores the SVC VCI lower limit.

SVC VCI High
This field stores the SVC VCI upper limit.

Port Information - Atm Port Queue

The Port Information - Atm Port Egress Queue Table describes the fields that you have access to read and to configure the ATM Port Egress Queues.

To access this table, select **Port Information -> ATM Port Queue** from the **Icon Subviews** menu for the **StComCommonApp**. This table displays the following information:

Index
Index into the port egress queue array of the given port that uniquely identifies this queue. If the value of Type is "axis," then the value of this field also specifies the axis slot associated with this queue.

Admin Status
User requested state for this port queue table row. The only operation supported in this table is modify.

Type
The type of the queue. If the type is “axis”, then the Index specifies the axis slot associated with this queue.

Depth
The storage depth allocated to this queue in block of cells. The block size is one cell for T3/E3 and 64 cells for OC3. The aggregate of the queue depths for all queues cannot exceed the maximum storage available for the port.

CLP High
The CLP tagging activation threshold for this queue expressed as a percentage of queue depth.

CLP Low
The CLP tagging deactivation threshold for this queue expressed as a percentage of queue depth.

EFCI Thesh
The EFCI threshold for this queue expressed as a percentage of queue depth.

Algorithm
The queue service algorithm. (Table 10) describes the settings for this field.

Table 10: Queue Service Algorithm Settings

Setting	Description
Off (1)	Never Serve
Always (2)	Always Serve
Ok (3)	Ok to Serve, Not Minimum Guaranteed
Min_Guar (4)	Minimum Guaranteed bw, No Limit
Min_Smooth (5)	Minimum Guaranteed bw, Smoothed
Min_Delay (6)	Minimum Guaranteed bw, Delay Limited

Port Information - ATM Port Statistics

The Port Information - Atm Port Statistics Table is composed of three tables that show ATM port statistical information.

To access these tables, select **Port Information -> ATM Port Statistics** from the **Icon Subviews** menu for the **StComCommonApp**. The three tables, Received Statistics Table, Transmitted Statistics Table, and Error Statistics Table, will display the following information:

Received Statistics Table

Slot
The slot number for this port.

Port
The port number for this port.

AIS
Total number of cells received from AIS (Alarm Indication Signal).

FERF
Total number of cells received with FERF (Far-End Receive Failure.)

Cells
Total number of cells received.

CLP
Total number of cells received with CLP (Cell Loss Priority) set.

EFCI
Total number of cells received with EFCI (Explicit Forward Congestion Indication) set.

BCM
Total number of BCM cells received.

OAM
Total number of OAM (Operation, Administration, and Maintenance) cells received.

ILMI Get
ILMI (Internal Local Management Interface) Get requests received.

ILMI Get Next
ILMI Get Next requests received.

ILMI Set
ILMI Set requests received.

ILMI Trap
ILMI Traps received.

ILMI Get Rspns
ILMI Get Response messages received.

ILMI Unknown PDU
Unknown PDU (Protocol Data Unit) type received.

LMI Stat Enquiry
LMI (Local Management Interface) Status Enquiry messages received.

LMI Status
LMI Status messages received.

LMI Update Stat
LMI Update Status messages received.

LMI Stat Ack
LMI Status Acknowledge messages received.

Transmitted Statistics Table

Slot
The slot number for this port.

Port
The port number for this port.

Cells
Total number of cells transmitted.

CLP
Total number of cells transmitted with CLP (Cell Loss Priority) set.

EFCI
Total number of cells transmitted with EFCI (Explicit Forward Congestion Indication) set.

ILMI Get Next
ILMI (Internal Local Management Interface) Get Next requests transmitted.

ILMI Get
ILMI Get requests transmitted.

ILMI Get Rsp
ILMI Get Response messages transmitted.

ILMI Trap
ILMI Traps transmitted.

LMI Status
LMI (Local Management Interface) Status messages transmitted.

LMI Update Stat
LMI Update Status messages transmitted.

LMI Stat Ack
LMI Status Acknowledge messages transmitted.

LMI Stat Enquiry
LMI Status Enquiry messages transmitted.

Error Statistics Table

Slot
The slot number for this port.

Port
The port number for this port.

Unknown Address
The number of cells discarded due to unknown address.

Buffer Overflow
The number of times the port has incurred a cell buffer overflow.

Non-Zero GFCs
The number of non-zero GFC cells for a UNI port. For a NNI port, this value is “0.”

ICSU Discards
The count of cells discarded by the Ingress Control Service Unit.

ICSU Emptys
The Ingress Control Service Unit free list empty count.

BIP-16 Discard
Total number of cells discarded due to BIP-16.

Parity Discards
Total number of cells discarded due to parity error.

Switch Media - DS1 Interfaces

The DS1 Interfaces table shows the DS1 interfaces on a switch.

To access this table, select **Switch Media -> DS1 Interfaces** from the **Icon Subviews** menu for the **StComCommonApp**. This table will display the following information:

Switch IF
The DS1 interface entry.

Alarm Status
The alarms state for logical interface table row.

Alarm Type
The alarm status information for the alarm state of a trunk or line.

IF Type
The type of interface used to provide information about the DS1 type: T1, E1.

Line Code
The line coding for the logical interface table row.

Clock Source
The transmit clock source for the logical interface table row.

Switch Media -DS3 Interfaces

The DS3 Interfaces table shows the DS1 interfaces on a switch and supports Set functions equivalent to CLI commands (addlnloclp, addlnlocrmtlp, dellnlp) on T3/E3 lines or trunks.

To access this table, select **Switch Media -> DS3 Interfaces** from the **Icon Subviews** menu for the **StComCommonApp**. This table will display the following information:

Switch IF
The interface entry for the DS3 Interface table.

Alarm State
The alarms state for the logical interface table row.

Alarm Type
The alarm status information for the alarm state of a trunk or line.

IF Type
The type of interface used to provide information about the DS3 type: T3, E3.

Line Code
The type of ZCS coding used on this DS3 line.

Clock Source
The clock source for the logical interface table row.

Local Loopback
The line local loopback. The settings are as follows:

- Get - show the current local loopback status
- Set - enable or disable the local loopback.

Line Lcl Rmt Lpb
The line local remote loopback. The settings are as follows:

- Get - show the current local remote loopback status.
- Set - enable or disable the remote loopback.

The DS3 Line Local Loopback and the Remote Loopback can not be enabled at the same time.

Switch Media - Sonet Interfaces

The Sonet Interfaces table shows a list of the Sonet interfaces.

To access this table, select **Switch Media -> Sonet Interfaces** from the **Icon Subviews** menu for the **StComCommonApp**. This table will display the following information:

Switch IF
The interface entry for the Sonet Interfaces table.

Alarm State
The alarms state for the logical interface table row.

Alarm Type
The alarm status information for the alarm state of a trunk or line.

IF Type
The type of interface used to provide information about the sonet type: T3, E3.

Frame
The line framing standard for the logical interface table row.

Speed
The line speed for the logical interface table row in units of megabits per second.

Clock Source
The clock source for the logical interface table row.

Local Loopback
The line local loopback. The settings are as follows:

- Get - show the current local loopback status
- Set - enable or disable the local loopback.

Lcl Rmt Lpbk
The line local remote loopback. The settings are as follows:

- Get - show the current local remote loopback status.
- Set - enable or disable the local remote loopback.

Note: The Sonet Local Loopback and the Remote Loopback cannot be enabled at the same time.

Switch Media - DS1 IF Stats

The DS1 Interface Statistics table shows the DS1 interface statistics on a switch.

To access this table, select **Switch Media -> DS1 IF Stats** from the **Icon Subviews** menu for the **StComCommonApp**. This table will display the following information:

Switch IF
The interface entry for the DS1 Interface Statistics table.

Bipolar Viol
The number of Bipolar Violations. This statistic is not applicable for E1 lines.

Frame Slip
The number of Frame Slip errors.

Out of Frame
The number of Out of Frame errors.

Loss of Signal
The number of Loss of Signals errors.

Frame Bit
The number of Frame Bit errors.

CRC
The number of line detection CRC errors.

Out of Multi-Frame
The number of Out of Multi-Frames errors.

All One in Time
The number of All One in Time Slot 16 errors.

Switch Media - DS3 IF Stats

The DS3 Interface Statistics table shows DS3 interfaces on the switch.

To access this table, select **Switch Media -> DS3 IF Stats** from the **Icon Subviews** menu for the **StComCommonApp**. This table will display the following information:

Switch IF
The interface entry for the DS3 Interface Statistics table.

Out Of Frames
The number of Out of Frame errors.

Loss of Signal
The number of Loss of Signals errors.

Code Violations
The number of Line Code Violations.

C-Bit Parity CV
The number of C-bit Parity Code Violations.

P-Bit Parity CV
The number of P-bit Parity Code Violations.

PLCP BIP-8 CV
The number of PLCP BIP-8 Code Violations.

ATM Cell Head CR
The number of ATM Cell Header Checksum errors.

Packet Head CRC
The number of Packet Header CRC errors.

PLCP Out of Frame
The number of PLCP Out of Frame errors.

Switch Media - Sonet IF Stats

The Sonet Interface Statistics table shows the Sonet interface statistics for the switch.

To access this table, select **Switch Media -> Sonet IF Stats** from the **Icon Subviews** menu for the **StComCommonApp**. This table will display the following information:

Switch IF
An interface entry.

Out Of Frame
The number of Out of Frame errors.

Loss of Signals
The number of Loss of Signals errors.

ATM Cell Head Checksum
The number of ATM Cell Header Checksum errors. This field is not applicable (0) to BXM (Broadband Switch Module).

Voice Information - Voice Channel

The Voice Channel table has channel specific configuration information that is available for each of the voice channels.

To access this table, select **Voice Information -> Voice Channel** from the **Icon Subviews** menu for the **StComCommonApp**. This table will display the following information:

Slot
The slot number.

Channel
The channel number; this is the index to the Voice Channel table.

Admin Status
User requested operation for this table. The values supported on this table are modify and create.

Endpt Pointer
Pointer to channel Endpoint table. This may not necessarily have a value. If there is no corresponding Voice Channel Entry in the endpoint table, this field would be "0."

IF
The type of line interface associated with this channel.

Adaptive Voice
Determines whether the channel is configured for adaptive voice. This feature must be configured at both ends of the channel. The adaptive voice feature must also be equipped at each node terminating the connection. If the adaptive voice feature is enabled for a channel connection which is used for a "c" or "v" connection, VAD is automatically disabled on that channel when trunk bandwidth is available, and it is enabled when trunk bandwidth is needed. By DEFAULT this is True. This variable is not applicable if the channel is used for signaling.

Dial Type
Information about the dial type that is used on the channel. Default is Inband dial type. If type is user configured, the related objects for which values need to be provided are: Signalling Delay, Min Wink, and Playout Delay. If the values for any of these variables are not provided for user configured dial type, the current values in the database shall be retained. Each of the variables can be set independently. This is true for CDP and CIP cards. By default every voice connection is configured with Inband signalling.

Signalling Delay
The signaling delay, in milliseconds (ms), to assign the user configurable dial type. The value specified is rounded to the closest multiple of 1.5 ms. The default value for inband is "96" and for pulse it is "96." When the dial type is inband or pulse, the value for this field should not be provided.

Min Wink
The minimum wink, in milliseconds, to assign to the user configurable dial type. The value specified is rounded off to the nearest whole multiple of 3ms. The default value for inband is "20" and for pulse it is "20." When the dial type is inband or pulse, the value for this field should not be provided.

Playout Delay
The playout delay, in milliseconds, assigned to the user configurable dial type. The value specified is rounded. The default value for inband is "200" and for pulse it is "200." When the dial type is inband or pulse, the value for this field should not be provided.

Rx Sig ABit through DBit

These fields represent the configurations of bit conversion to received signaling on a channel. The value is given as one of the enumeration above which have the following meaning as shown in Table 11.

Table 11: Receive Signaling for ABit through DBit

Value	Description
one (1)	Signaling bit is 1.
zero (2)	Signaling bit is 0.
xmitTransparent (3)	Transmit signaling bit transparently.
noXmit (4)	Don't transmit signaling bit.
revSigBit (5)	Reverse/Inverse signaling bit.

The default value is one. If the signaling is not used at all, A=1, B=1, C=0, and D=1. The initialization value is xmitTransparent (3).

Tx Sig ABit through DBit

These fields allow the node to pass A channel signaling bits through unchanged, or to invert or hold them at a given value for a CDP/CIP circuit line. It affects signaling bits in the transmit direction (e.g. to the CPE/PABX). The value is given as one of the enumeration above which have the following meaning as shown in Table 12.

Table 12: Transmit Signaling for ABit through DBit

Value	Description
one (1)	Signaling bit is 1.
zero (2)	Signaling bit is 0.
xmitTransparent (3)	Transmit signaling bit transparently.
donotXmit (4)	Don't transmit signaling bit.
revSigBit (5)	Reverse/Inverse signaling bit.

The default value is "1." If the signaling is not used at all, A=1, B=1, C=0, and D=1. The initialization value is xmitTransparent (3.)

IF Type Name

The interface type assigned to a channel.

Onhook ABit through DBit

The values of A through D signaling bit, for which the IPX shall recognize an on-hook condition. The default value is unknown (4.) The value corresponding to pre-defined Interface Types have been given in the table in the "Description" clause of field Voice Channel IF Type Name. If the

Interface Type is a pre-defined type, the value is not provided for this field.

Condition

The name of one of the condition criterion templates defined in the Voice Conditioning Table. The value corresponding to pre-defined interface Types have been given in the table in the "Description" clause of the object Voice Channel Interface Type Name. Currently, only the pre-defined conditioning templates are supported. If the interface type is pre-defined type, value is not provided for this field.

Canceller

The integrated echo canceller channel parameters associated with the specified voice channel. By default it is disabled. If it has to be enabled from a disabled state then the values for the variables in Table 13 have to be supplied.

Table 13: Voice Channel Echo Canceller Values

Name	Value	Description
voiceChannelEchoRtnLoss	High/ Low	Set the echo return loss to High/Low
voiceChannelEchotone	Enable/ Disable	Enables or disables the tone disabler.
voiceChannelEchoConv	Enable/ Disable	Enables or disables convergence
voiceChannelEchoNlp	Enable/ Disable	Enables or disables non-linear Processing

If any one of the variables is not specified, the previous value of that variable shall be retained. If the Echo Cancel is to be SET to disable, values for the related parameters are not allowed in the SET.

Echo Return Loss

The Echo Return Loss if the echo canceller is enabled. The default value is High (2). If the Echo Cancel is to be SET to disable, values for the related parameters are not allowed in the SET.

Tone Disabler

Determines whether the Tone Disabler is enabled. The default value is Enable (1.) If the Echo Cancel

is to be SET to disable, values for the related parameters are not allowed in the SET.

Echo Convergence

Determines whether the Echo Convergence is enabled. The default value is Enable (1.) If the Echo Cancel is to be SET to disable, values for the related parameters are not allowed in the SET.

NonLinear

Determines whether the NonLinear processing is enabled. The default value is Enable (1.) If the Echo Cancel is to be SET to disable, values for the related parameters are not allowed in the SET.

In Gain

The amount of gain inserted at the receiver side of a CDP/CIP circuit line on voice connections. The gain is specified in decibels to be assigned to the channel. The gain can be configured between +6 dB and -8 dB. By default it is zero.

Out Gain

The amount of gain inserted at the transmit side of a CDP/CIP circuit line on voice connections. The gain is specified in decibels to be assigned to the channel. The gain can be configured between +6 dB and -8 dB. By default it is zero.

% Utilization

The percentage of utilization of this channel. This object informs the system software of the expected utilization rate of connections with traffic dependent compression algorithm. For use in voice connections with VAD. Acceptable values are in the range of 0 to 100. The default value for voice is 40.

Voice Information - Voice Endpoint

The Voice Endpoint Table contains configuration information about each voice channel. This table is used to model a specific Voice Channel connection. This table contains parameters which are required to create a voice connection and configure the channel.

To access this table, select **Voice Information -> Voice Endpoint** from the **Icon Subviews** menu for the **StComCommonApp**. This table will display the following information:

Index

The index to the Voice Endpoint table.

Remote Node Index

The index for the remote node for this channel endpoint. For local (intra-node) connections, this index is associated with the local node and will be in the range of 1024 to 2047.

Description
Description for this voice channel. Contains information about the domain, nodename, slot, and channel for the connection.

Other EndPt Desc
Description for the remote channel. Contains information about the domain, nodename, slot, and channel for the connection.

Admin Status
The user requested state for voice endpoint table row. A user can create/delete/modify this voice channel connection by setting this object appropriately. To test a particular object, set the value to “test.”

Oper Status
The actual state of the voice channel. If the state failed, check No Route Found Failure, Bump Failure, and Test Failure to determine reason for failure.

Rate Type
The type of voice connection. Table 14 lists the types and their descriptions.

Table 14: Voice Connection Types

Type	Description
a32	Uses ADPCM only. Can select 32/24/16 Kbps compression.
a16z	Standard 16kbps ADPCM only. Compressed code can have strings of zeros and should be used on lines that have other zero code suppression.
c32	Uses both ADPCM and Voice Activity Detection (VAD).
c24	Can select 32/24/16 Kbps ADPCM compression.
c16z	Standard 16Kbps ADPCM and Voice Activity Detection (VAD).
p	64 Kbps connection. No compression.
t	Transparent. Clean 64Kbps connection. No compression.

End Point Fail
Endpoint failed because of a remote endpoint failure. The remote endpoint is on a node that resides in another domain making the connection an inter-domain connection.

No Route Found
Channel connection failed because no route to the remote channel could be found.

Bump Failure
Channel connection failed because of insufficient bandwidth to route to the remote channel. This may have also been caused because a higher priority connection took this channel's bandwidth. A higher priority connection is one with the lowest Class Of Service (COS).

Test Failure
Channel failed because of the failure of a connection test.

Test Type
Specifies the type of test the user would like to conduct on this endpoint. Only testCon is currently defined. TestCon performs a test of voice path integrity in the connection.

Loopback State
Specifies the current Loopback State of the endpoint. The value returned from this object is a bitmap of the current loopback states associated with this endpoint.

Connection Ptr
A pointer to general connection information. Using this pointer the user can obtain connection status and routing information. This is an object identifier specifying the first column of the appropriate row in the Connection Table.

Channel Pointer
A pointer to channel configuration information. Using this pointer the user can obtain all channel configuration information. This is an object identifier specifying the first column of the appropriate row in the Voice Channel Table.

Trunk Avoid
The user selectable types of trunks to avoid for the transfer of voice channel data. Current choices are to avoid satellite links, terrestrial links, or to not avoid any specific type of link. This object is optional during the creation of the endpoint.

Avoid ZCS
The flag to force the connection to avoid trunks with Zero Code Suppression. This object is optional during the creation of the endpoint.

Endpoint State
The state of the connection endpoint.

Adaptive Voice
Determines if the endpoint supports Adaptive voice.

Endpt Adaptive
Determines if the other endpoint supports Adaptive voice.

Encoding
The type of Encoding used at this endpoint.

Other Encoding
The type of Encoding used at the other endpoint.

Endpoint Type
The endpoint type.

Local Lpbk State
The local loopback state the user would like to set for the endpoint. On a Get, it reflects whether or not the channel is looped back.

SVC Id
Specifies the 32-bit identifier associated with this Switched Virtual Circuit (SVC.)

Is SVC
Specifies whether the 32-bit identifier is associated with a Switched Virtual Circuit (SVC) or with a Permanent Virtual Circuit (PVC.)

Voice Information - Voice EndPt Stats

The Voice Endpoint Statistics table contains voice endpoint related statistics.

To access this table, select **Voice Information -> Voice EndPt Stats** from the **Icon Subviews** menu for the **StComCommonApp**. This table will display the following information:

Vc EndPt Index
The index for the Voice Endpoint Statistics table.

Packets Rx
The number of packets received from the Muxbus by the local port card.

Packets Tx
The number of packets transmitted from the local port card onto the Muxbus.

Rx Pkts Discard
The number of packets received from the Muxbus by the local port card which are discarded before being transmitted out to the port.

Sprv Pkts Tx
The number of supervisory packets transmitted from the local port onto the Muxbus. Supervisory packets reflect signaling bit transitions for voice connections.

Sprv Pkts Rx
The number of supervisory packets received from Muxbus associated with a connection.

V25 Modem On
The number of seconds the V.25 modem is detected and the connection is upgraded to PCM (Pulse Code Modulation).

DSI On
The number of seconds that a connection is performing Digital Speech Interpolation (DSI).

Offhook
The number of seconds that a connection is offhook. The onhook state is determined by onhook A/B/C/D bits defined by variables in the Voice Endpoint Table. A connection which is not onhook is treated as offhook.

Inservice
The number of seconds a connection is in-service. A connection is said to be in-service if its endpoints are not in alarm, the cards required to support this connection are present, and the connection is routed.

Voice Information - Voice EndPt Map

This table allows you to determine the table indices associated with the connection which are defined by the physical attributes of slot and channel.

To access this table, select **Voice Information -> Voice EndPt Map** from the **Icon Subviews** menu for the **StComCommonApp**. This table will display the following information:

Slot
The slot number associated with the requested connection endpoint.

Channel
The channel number associated with the requested connection endpoint.

Endpoint Pointer
This field contains a pointer in the service specific endpoint table which corresponds to the slot and channel specified in the columns above.

Connection Pointer
This field contains a pointer in the connTable which corresponds to the slot and channel specified in the columns above.

Trunk Information - Frame Relay Trunk

The Frame Relay Routing Trunk Table shows trunk packet information, other end of the trunk information, and Bursty Data B information.

To access this table, select **Trunk Information -> Frame Relay Trunk** from the **Icon Subviews** menu for the **StComCommonApp**. This table will display the following information:

Switch IF
An interface entry for the Frame Relay Trunk table.

Status
The alarm state for the logical interface table row.

Alarm Enable
A field to disable/enable a trunk alarm.

Communic Status
The communication status of the protocol on this trunk.

Tx Capacity
The Transmit Capacity on this trunk in packets per second.

Tx Load
The Transmit Load on this trunk in packets per second.

Rx Capacity
The Receive Capacity on this trunk in packets per second.

Rx Load
The Receive Load on this trunk in packets per second.

Other End Type
The type of node or shelf at the other end of this trunk.

Other End Name
The name of the shelf at the other end of this trunk.

Other End IP
The IP address of the shelf at the other end of this trunk.

Other End IF
The index at the other end of this trunk.

Other End Domain
The domain of the shelf at the other end of this trunk.

Tx Rate
The trunk transmission rate in unit of packets per second.

Pass Sync
The selection of this trunk to pass synchronization to the network clock. The default value of this field is “no” (2.)

Stat Reserve
The statistical reserve in packets per second for this trunk. The default value for this field is “600 cps.”

Loop Clock
This field indicates if this trunk has been configured to loop receive clock back to transmit. The default value for this field is “no” (2.)

B Data B Queue
The depth of Bursty Data B transmission queue (in decimal) of this trunk.

B Data B EFCN
The transmission EFCN threshold (in decimal) for Bursty Data B traffic of this trunk.

B Data B Hi CLP
The transmission high CLP threshold (in percentage) for Bursty Data B traffic of this trunk. The default value for this field is “75%.”

B Data B Low CLP
The transmission low CLP threshold (in percentage) for Bursty Data B of this trunk. The default value for this field is “25%.”

Link Type
The physical link type of the trunk. The default value for this object is “terrestrial (1.)”

Trunk Information - ATM Trunk

The ATM Trunk Tables show ATM Trunk packet information, other end of the trunk information, Switched Virtual Ciruit information, and Bursty Data B information.

To access these tables, select **Trunk Information -> ATM Trunk** from the **Icon Subviews** menu for the **StComCommonApp**. These tables, ATM Trunk Table 1 and ATM Trunk Table 2, will display the following information:

ATM Trunk Table 1

Switch IF
An interface entry for the ATM Trunk table.

Alarm State
The alarms state for the logical interface table row.

Alarm Enable
A field to disable/enable a trunk alarm.

Communic Status
The communication status of the protocol on this trunk.

Rx Rate
The trunk receive rate in units of 1000 packets per second.

Tx Capacity
The transmit capacity on this trunk in cells per second.

Tx Load
The transmit load on this trunk in cells per second.

Rx Capacity
The receive capacity on this trunk in cells per second.

Rx Load
The receive load on this trunk in cells per second.

Trunk Type
The type of trunk. The values of trunk type CBR(2), trunk type VBR(3), and trunk type ABR(4) are writable for virtual trunks only. The trunk type PHY(1) value is returned for a get-request on a physical trunk.

VPI
The VPI (Virtual Path Identifier) used on this virtual trunk. The maximum value is “255” for DS3 trunks, and “63” for OC3 trunks. The minimum value for set-request PDUs is “1.” This value must be unique on a physical trunk port and also must match the value for the path through the ATM cloud.

Channels Reserv
The number of channels reserved for this trunk.

Traffic Class
The traffic classes of this trunk. Table 15 lists the bit number and classes description.

Table 15: Traffic Classes

Bit Number	Class Description
bit 0	Voice
bit 1	Time Stamped
bit 2	Non-Time Stamped
bit 3	Frame Relay
bit 4	not used
bit 5	ForeSight
bit 6	ATM CBR
bit 7	ATM VBR
bit 8	ATM ABR

End Type
The type of node or shelf at the other end of this trunk.

End Name
The name of the shelf at the other end of this trunk.

End IP Addr
The IP address of the shelf at the other end of this trunk.

End IF
The switch interface index at the other end of this trunk.

End Domain
The domain of the shelf at the other end of this trunk.

LCN Rx for SVC
The number of LCNs (Logical Channel Number) reserved for the SVCs (Switched Virtual Circuit) on this trunk. The other SVC parameters are valid if this field has a non-zero value.

Share LCN
Whether the LCNs (Logical Channel Number) are shared per port basis or per card basis.

ATM Trunk Table 2

Switch IF
An interface entry for the ATM Trunk table.

SVC LCN Low
The lower limit of the LCN (Logical Channel Number) value which can be used on this trunk.

SVC LCN High
The upper limit of the LCN (Logical Channel Number) value which can be used on this trunk for SVCs (Switched Virtual Circuits.)

SVC VPI Low
The SVC VPI lower limit. The partitioning is based on the STI Header VC-format. The 16-bit concatenated VPI/VCI field is partitioned between PVC and SVC. On a physical trunk a range will be reserved for SVCs.

SVC VPI High
The SVC VPI upper limit. The partitioning is based on the STI Header VC-format. The 16-bit concatenated VPI/VCI field is partitioned between PVC and SVC. On a physical trunk a range will be reserved for SVCs.

SVC VCI Low
The SVC VCI lower limit.

SVC VCI High
The SVC VCI upper limit.

SVC Queue Map
A 32-bit octet string which represents the queue bin allocation. If the bit is set to "1," it is allocated to SVCs and if "0" it is allocated to PVCs.

SVC Egress Queue
The egress queue pool size.

SVC BW
The bandwidth partition available for SVCs.

SVC In Use
This field is set by the INS to indicate that SVC partitioning information is being used by INS. The initial value is "notInUse." This field is valid if ATM Port Service Channels is non-zero.

Tx Rate
The trunk transmission rate in unit of cells per second.

Pass Synchroniz
The selection of this trunk to pass synchronization to the network clock. The default value for this object is "yes " (1.)

Stat Reserve
The Statistical Reserve in cells per second for this trunk.

Loop Clock
This field indicates if this trunk has been configured to loop receive clock back to transmit. The default value for this field is "no" (2.)

BDataB Tx Queue
The depth of Bursty Data B transmission queue (in decimal.) The default value for this field is "8000."

BDataB Rx Queue
The depth of Bursty Data B receiving queue (in decimal.) The default value for this field is "8000."

BDataB Tx EFCN
The transmision EFCN threshold (in decimal) for Bursty Data B of this trunk. The default value for this field is "8000."

BDataB Rx EFCN
The receiving EFCN threshold (in decimal) for Bursty Data B of this trunk. The default value for this field is "8000."

BDataB Tx CLP High
The transmission high CLP threshold (in percentage) for Bursty Data B of this trunk. The default value for this field is "75."

BDataB Rx CLP High
The receiving high CLP threshold (in percentage) for Bursty Data B of this trunk. This field is not

applicable (-1) to BPX ATM trunk (BNI or BXM.) The default value for this field is “75.”

BDataB Tx CLP Low
The transmission low CLP threshold (in percentage) for Bursty Data B of this trunk. This field is not applicable (-1) to IPX or IGX ATM trunks. The default value for this field is “25.”

BDataB Rx CLP Low
The receiving low CLP threshold (in percentage) for Bursty Data B of this trunk. This field is not applicable (-1) to BPX ATM trunk (BNI or BXM.) The default value for this object is “25.”

Max Port on Channel
The maximum number of channels a BXM trunk port can support. This field is applicable to BXM trunk only. The default value for this field is “1484.”

Link Type
The physical link type of the trunk. The default value for this field is “terrestrial (1).”

Deroute Delay Timer
The deroute delay timer of the trunk in unit of second. The default value for this object is “0.”

Trunk Information - Frame Relay Trunk Stat

The Frame Relay Trunk Packet Statistics Table shows transmit packet statistics.

To access this table, select **Trunk Information -> Frame Relay Trunk Stat** from the **Icon Subviews** menu for the **StComCommonApp**. This table will display the following information:

Switch IF
An interface entry on the Frame Relay Trunk Statistics table.

CRC
The number of Fast Packet CRC errors.

Out of Frame
The number of Fast Packet Out of Frame errors.

Tx Voice Drop
The number of transmitted voice fast packets dropped.

Tx Time-Stamp Drop
The number of transmitted time-stamped packets dropped.

Tx Non T-S Drop
The number of transmitted non time-stamped packets dropped.

Tx High Prio Drop
The number of transmitted high priority packets dropped.

Tx BDataA Drop
The number of transmitted Bursty Data A packets dropped.

Tx BDataB Drop
The number of transmitted Bursty Data B packets dropped.

Tx to Line
The number of total packets transmitted to the line.

Trunk Information - ATM Trunk Stat

The ATM Trunk Statistics Table shows packet and cell statistics in the ATM Trunk Statistics Packet Table and the ATM Trunk Statistics Cell Table.

To access these tables, select **Trunk Information -> ATM Trunk Stat** from the **Icon Subviews** menu for the **StComCommonApp**. These tables, ATM Trunk Statistics Packet Table and ATM Trunk Statistics Cell Table, will display the following information:

ATM Trunk Statistics Packet Table

Switch IF
The interface for the ATM Trunk Statistics Packet Table.

Tx Voice Drop
The number of transmitted voice fast packets dropped.

Tx T-S Drop
The number of transmitted time-stamped packets dropped. This statistic is not applicable to BPX trunks, “0” is returned for BPX trunks.

Tx Non T-S Drop
The number of transmitted non time-stamped packets dropped. This statistic is not applicable to BPX trunks, “0” is returned for BPX trunks.

Tx High Prio Drop
The number of transmitted high priority packets dropped. This statistic is not applicable to BPX trunks, “0” is returned for BPX trunks.

Tx BDataA Drop
The number of transmitted bursty data A packets dropped. This statistic is not applicable to BPX trunks, “0” is returned for BPX trunks.

Tx BDataB Drop
The number of transmitted bursty data B packets dropped. This statistic is not applicable to BPX trunks, “0” is returned for BPX trunks.

Rx Voice Drop
The number of received voice packets dropped. This statistic is not applicable to BPX trunks, “0” is returned for BPX trunks.

Rx T-S Drop
The number of received tim-stamped packets dropped. This statistic is not applicable to BPX trunks, “0” is returned for BPX trunks.

Rx Non T-S Drop
The number of received non time-stamped packets dropped. This statistic is not applicable to BPX trunks, “0” is returned for BPX trunks.

Rx High Prio Drop
The number of received high priority packets dropped. This statistic is not applicable to BPX trunks, “0” is returned for BPX trunks.

Rx BDataA Drop
The number of received bursty data A packets dropped. This statistic is not applicable to BPX trunks, “0” is returned for BPX trunks.

Rx BDataB Drop
The number of received bursty data B packets dropped. This statistic is not applicable to BPX trunks, “0” is returned for BPX trunks.

Rx Spacer Drop
The number of received Spacer Packets dropped. This statistic is not applicable to BPX trunks, “0” is returned for BPX trunks.

Tx To Line
The number of total packets transmitted to the line. This statistic is not applicable to BPX trunks, “0” is returned for BPX trunks.

Rx From Line
The number of total packets received from the line. This statistic is not applicable to BPX trunks, “0” is returned for BPX trunks.

ATM Trunk Statistics Cell Table

Switch IF
The interface for the ATM Trunk Statistics Cell Table.

Tx Voice Drop
The number of transmitted ATM voice cells dropped. This statistic is not applicable to ATM Virtual trunks, “0” is returned for ATM Virtual trunks.

Tx T-S Drop
The number of transmitted time-stamped ATM cells dropped. This statistic is not applicable to ATM Virtual trunks, “0” is returned for ATM Virtual trunks.

Tx Non T-S Drop
The number of transmitted non time-stamped ATM cells dropped. This statistic is not applicable to ATM Virtual trunks, “0” is returned for ATM Virtual trunks.

Tx High Prio Drop
The number of transmitted high priority ATM cells dropped. This statistic is not applicable to ATM Virtual trunks, “0” is returned for ATM Virtual trunks.

Tx BDataA Drop
The number of transmitted Bursty Data A cells dropped. This statistic is not applicable to ATM Virtual trunks, “0” is returned for ATM Virtual trunks.

Tx BDataB Drop
The number of transmitted Bursty Data B cells dropped. This statistic is not applicable to ATM Virtual trunks, “0” is returned for ATM Virtual trunks.

Tx CBR Drop
The number of ATM CBR cells dropped. This statistic is not applicable to IPX/IGX ATM trunks, “0” is returned for IPX/IGX ATM trunks.

Tx VBR Drop
The number of transmitted ATM VBR cells dropped. This statistic is not applicable to IPX/IGX ATM trunks, “0” is returned for IPX/IGX ATM trunks.

Tx ABR Drop
The number of transmitted ATM ABR cells dropped. This statistic is not applicable to IPX/IGX ATM trunks, “0” is returned for IPX/IGX ATM trunks.

Tx To Line
The number of total cells transmitted to the line.

Rx From Port
The number of total cells received from the port.

Stratacom Frame Relay Application

This section describes the device-specific StrataCom Frame Relay application. The StrataCom Frame Relay application is supported by the **StComFRApp** model type. Table 16 lists the application-specific subviews available from the Icon Subviews menu for this application. Descriptions of the subviews follow this table.

These subviews allow you to view the values for various MIB objects that will assist you in managing the Frame Relay connectivity of the Cisco StrataCom switch. Additional functionality is available if SPECTRUM's Frame Relay Manager is installed. See *Advanced Application Integrations* (Page 120) for more information.

Table 16: Application Icon Subviews Menu Selections

Option	Opens the...
Bandwidth Class	Bandwidth Class view (Page 70).
Endpoint Configuration	Endpoint Configuration view (Page 72).

Table 16: Application Icon Subviews Menu Selections (Continued)

Option	Opens the...
Endpoint Statistics	Endpoint Statistics view (Page 78).
Model Information	Model Information view described in ***SPECTRUM Views***.

Bandwidth Class

This option displays the Frame Relay Bandwidth Class view, which includes the Frame Relay Bandwidth Class Table and the Other Endpoint Bandwidth Class Table.

The Frame Relay Bandwidth Table describes the Frame Relay Bandwidth Classes available on the node. In order to avoid specifying all the bandwidth parameters while creating a frame relay connection, the user can specify a frame relay bandwidth class by its number, which is available as the index into these tables.

Frame Relay Bandwidth Class Table

Index
The index for the Frame Relay Bandwidth Class Table.

MIR(100b/s)
The Minimum Transmit Bandwidth (MIR) parameter (in 100s of bits per second) for this endpoint.

CIR(100b/s)
The value of this field is equal to the Committed Information Rate (CIR) parameter (in 100s of bits per second) for this endpoint.

VC Queue
The value of this field is the maximum queue depth (in bytes) for this endpoint.

BC
The value of this field is equal to the committed burst size (Bc) parameter (in bytes) for this endpoint.

PIR(100b/s)
The Peak Transmit Bandwidth (PIR) parameter (in 100s of bits per second) for this endpoint.

Be
The value of this field is equal to the excess burst size (Be) parameter (in bytes) for this endpoint.

Max Credits
The maximum credits that can be accrued for this endpoint.

Ecn Queue
The threshold setting used by the explicit congestion notification feature for this endpoint's transmit queue. The value is specified in bytes.

QIR(100b/s)
The transmit Quiescent Information Rate (QIR) parameter (in 100s of bits per second) for this endpoint. This value can range between the MIR and PIR values and must be between 2400 and 204800. This parameter has meaning only if the Endpoint Enable FST parameter is set to true.

% Utilization
The value of this field is equal to the channel percentage utilization setting for this endpoint. This is the expected long-term utilization of the channel by this endpoint.

ForeSight
The value of this object determines whether or not the ForeSight option is being used. If set to false, the ForeSight is not used, and if true then ForeSight will be used.

Description
String describing the remote endpoint. Contains information about the domain, nodename, slot, port, and DLCI for the endpoint.

From Other Endpoint Table

Index
The index for the From Other Endpoint Table.

MIR(100b/s)
The Minimum Receive Bandwidth (MIR) parameter (in 100s of bits per second) for the other endpoint.

CIR(100b/s)
The value of this field is equal to the Committed Information Rate (CIR) parameter (in 100s of bits per second) for the other endpoint.

VC Queue
The value of this field is the maximum queue depth (in bytes) for this endpoint.

Bc
The value of this field is equal to the committed burst size (Bc) parameter (in bytes) for the endpoint.

PIR
The Peak Receive Bandwidth (PIR) parameter (in 100s of bits per second) for the other endpoint.

Be
The value of this field is equal to the excess burst size (Be) parameter (in bytes) for the other endpoint.

Max Credits
The maximum credits that can be accrued for the other endpoint.

Ecn Queue
The threshold setting used by the explicit congestion notification feature for the other endpoint's receive queue. This value is specified in bytes.

QIR(100B/s)
The receive Quiescent Information Rate (QIR) parameter (in 100s of bits per second) for the other endpoint.

% Utilization
The value of this field is equal to the channel percentage utilization setting for the other endpoint.

Endpoint Configuration

This option displays the Frame Relay End Point view, which includes the Frame Relay Endpoint Table and the Frame Relay Other Endpoint Table.

These tables define Frame Relay connection endpoint configuration. Each connection (Virtual Circuit (VC) or Permanent Virtual Circuit (PVC)) endpoint describes the particular characteristics of the endpoint. Such information as local and remote endpoint description, class of service, input and output bandwidth parameters, special PVC options, and PVC statistics are maintained in the endpoint. Also, mechanisms for determining the connection information associated with this endpoint, the next endpoint of a bundle or group, and a means for creating or deleting this endpoint are included.

Frame Relay Endpoint Table

Index
Index into this table for this endpoint. Although only 1024 endpoints may exist on a node, 1048 possible index values exist to support DAX (intra-node) connections.

Description
String describing this endpoint. Contains information about the domain, nodename, slot, port, and DLCI for the endpoint. Domain and nodename need not be given but slot, port, and DLCI values must exist.

Admin Status
User requested state for endpoint table row. A user can create this Virtual Circuit (VC) or delete this VC by setting this object appropriately. If the endpoint is to be modified, set this object identifier to modify. The user also has the capability to test a particular object. For this capability, the user must set this value to test.

Oper Status
The actual state of the endpoint. If the state is failed, then look to the objects No Route Found Failure, Bump Failure, Endpoint Failure, and Test Failure to determine reason for failure.

No Route Found
Endpoint is failed because no route to the remote endpoint could be found.

Bump Failure
Endpoint is failed because of insufficient bandwidth to route to the remote endpoint. This may have also been caused because a higher priority connection took this endpoint's bandwidth. A higher priority connection is one with the lowest Class Of Service (COS).

Endpoint Fail
Endpoint is failed because of a remote endpoint failure. The remote endpoint is on a node that

resides in another domain making the connection an inter-domain connection.

Test Failure
Endpoint is failed because of the failure of a connection test.

Connection Ptr
Pointer to general connection information. Using this pointer the user can obtain connection status and routing information. Specifically, this is an object identifier specifying the first column of the appropriate row in the Connection Table.

Next Pointer
Pointer to next endpoint information. This allows logical sets of endpoints to be linked up; for example, the endpoints associated with a bundle or group. Specifically, this is an object identifier specifying the first column of the appropriate row in the Frame Relay Endpoint Table.

Ptr Next EdPt
Pointer to next endpoint information for the port associated with this endpoint. For example, using this pointer, all frame relay endpoints on a given slot port can be determined. Specifically, this is an object identifier specifying the first column of the appropriate row in the Frame Relay Endpoint Table.

Trunk Avoid
User selectable types of trunks to avoid for the transfer of FRP data. Current choices are to avoid satellite links, terrestrial links, or to not avoid any specific type of link. This object is optional during the creation of the endpoint.

Avoid ZCS
Flag to force the connection to avoid trunks with Zero Code Suppression (ZCS). This field is optional during the creation of the endpoint.

Sub Type
Displays the Frame Relay endpoint subtype object.

Endpt Bandwidth
User selectable connection class which defines the operating parameters for the connection. Any or all of these parameters can be overridden by specifying the bandwidth parameters directly. This object is required during the creation of an endpoint.

MIR
The Minimum Transmit Bandwidth (MIR) parameter (in 100s of bits per second) for this endpoint. During creation of an endpoint, this object is required if no class index is provided. This is because the default values of bandwidth

parameters not provided are derived from this object.

CIR
The value of this object is equal to the Committed Information Rate (CIR) parameter (in 100s of bits per second) for this endpoint. This value will be defaulted to the provided MIR during an endpoint create. 0-CIR feature allows this object to be 0.

Committed Burst
The value of this object is equal to the committed burst size (Bc) parameter (in bytes) for this endpoint. This parameter is entered instead of the Frame Relay Endpoint VcQSize parameter. If both the Bc and VcQSize are provided, the values are tested for compatibility.

Excess Burst
The value of this object is equal to the excess burst size (Be) parameter (in bytes) for this endpoint. This parameter is entered instead of the Frame Relay Endpoint PIR parameter. If both the Be and the PIR are provided, the values are tested for compatibility.

Queue Depth
The value of this object is the maximum queue depth (in bytes) for this endpoint. This parameter is entered instead of the Frame Relay Endpoint Committed Burst Size (Bc) parameter. If both the VcQSize and the Bc are provided, the values are tested for compatibility.

PIR
The Peak Transmit Bandwidth (PIR) parameter (in 100s of bits per second) for this endpoint. This parameter is entered instead of the Frame Relay Endpoint Excess Burst Size (Be) parameter. This value defaults to the current port speed of the associated interface.

Max Credits
The maximum credits that can be accrued for this endpoint.

Congest Notif
The threshold setting used by the explicit congestion notification feature for this endpoint's transmit queue. This value is specified in bytes. When the Frame Relay Endpoint VcQSize value exceeds this value, then the FECN (Forward Explicit Congestion Notification) bit will be set in all frames transmitted to the remote endpoint.

QIR
The transmit Quiescent Information Rate (QIR) parameter (in 100s of bits per second) for this endpoint. This value can range between the MIR and PIR values and must be between 2400 and 204800. This parameter has meaning only if the

Frame Relay Endpoint Enable FST parameter is set to "true."

% Utilization
The value of this object is equal to the channel percentage utilization setting for this endpoint. This is the expected long-term utilization of the channel by this endpoint.

ForeSight
The value of this object determines whether or not the ForeSight option is being used. If set to false, the ForeSight is not used, and if true then ForeSight will be used.

Note: This object CANNOT be set for ATFR or ATFST connection during connection modification.

Priority
The value of this object determines the priority that is given to the data. If set to low, then the data is given the standard priority, and if set to high, the data will be given a higher priority. Higher priority data is placed at the beginning of the port's queues.

Group Flag
Specifies whether this is a grouped connection. The MIB object Group Flag provides grouping information about all the connections using that Connection Table entry whereas this object provides the same information for this endpoint.

Local Loopback
Specifies the Local Loopback state you can set for the endpoint.

Loc Rmt Lpbk
Specifies the Local-Remote Loopback state you can set for the endpoint.

Loopback State
Specifies the current Loopback state of the endpoint. The value returned from this object is a bitmap of the current loopback states which the endpoint has configured. There are currently 16 loopback states an endpoint may have configured. If NO LOOPBACK is configured, the agent will return "-1."

Test Type
Specifies the type of test the user would like to conduct on this endpoint. There are currently two types of tests. Test will exercise continuity, while Test Delay will calculate the delay incurred on the connection. The result of the Test Delay may then be accessed through the Frame Relay Endpoint Round Trip Delay object. To invoke a test, the Admin Status is required to be set to test (4). The NoLoop options provide the user the capability to

execute the tests without automatically invoking a loopback at the remote endpoint.

Round Trip Delay
The value of this object is the calculated round trip delay (measured in milliseconds) of this Frame Relay endpoint. A delay test is invoked through setting the Frame Relay Endpoint Test Type object to Test Delay.

Group Description
Describes the group this endpoint is associated with. The format of the group text description is domain.node.grp_number.

Frame Relay Other Endpoint Table

Index
Index into this table for this endpoint.

Endpt Index
Index into remote node's Frame Relay Endpoint Table for this PVC endpoint. For DAX (intra-node) connections, this index is associated with the local node and will be in the range of 1024 to 2047.

Description
String describing the remote endpoint. Contains information about the domain, nodename, slot, port, and DLCI for the endpoint.

MIR
The Minimum Receive Bandwidth (MIR) parameter (in 100s of bits per second) for the other endpoint. This parameter is actually the Frame Relay Endpoint MIR parameter for the remote endpoint. During creation of an endpoint, this object is required if no class index is provided. This is because the default values of bandwidth parameters not provided are derived from this object.

CIR
The value of this field is equal to the Committed Information Rate (CIR) parameter (in 100s of bits per second) for the other endpoint. This parameter is actually the Frame Relay Endpoint CIR parameter for the remote endpoint. 0-CIR feature allows this object to be 0.

Bc
The value of this field is equal to the committed burst size (Bc) parameter (in bytes) for the endpoint.

Be
The value of this field is equal to the excess burst size (Be) parameter (in bytes) for the other endpoint.

Queue
The value of this field is the maximum queue depth (in bytes) for this endpoint.

PIR
The Peak Receive bandwidth (PIR) parameter (in 100s of bits per second) for the other endpoint.

Max Credit
The maximum credits that can be accrued for the other endpoint.

Expl cong
The threshold setting used by the explicit congestion notification feature for the other endpoint's receive queue. This value is specified in bytes.

QIR
The receive Quiescent Information Rate (QIR) parameter (in 100s of bits per second) for the other endpoint. This value can range between the MIR and PIR values and must be between 2400 and 2048000.

% Util
The value of this object is equal to the channel percentage utilization setting for the other endpoint. This is the expected long-term utilization of the channel by the other endpoint.

Endpoint Statistics

This option displays the Frame Relay End Point Statistics view, which defines Frame Relay connection endpoint statistics with information in the following areas:

- Received or transmitted frame statistics
- Received or transmitted but discarded frame statistics
- Frame relay flow and congestion control statistics
- Received or transmitted frame and bytes over CIR

Received Statistics Table

EndPt Index
The index to the Frame Relay Endpoint Received Statistics table.

Bytes
The number of frame bytes received from the local frame relay port.

Frames
The number of frames received from the local frame relay port.

Packets
The number of packets received from the Muxbus by the local port card.

Bytes DE set
The number of frames received from the local frame relay port with their DE bit set. DE bits are only counted by model D frame relay firmware or later.

Frames DE set
The number of frames received from the local frame relay port with their DE bit set. DE bits are only counted by model D frame relay firmware or later.

Bytes Excess CIR
Frame Relay Endpoint received bytes from port in excess of CIR (Committed Information Rate.)

Frames Excess CIR
Frame Relay Endpoint received frames from port in excess of CIR.

Sec In Services
The number of seconds in which a connection is in service. A connection is considered to be in service if its endpoint is not in alarm, the cards required to support the connection are present, and the connection is routed.

Congest Minutes
Number of minutes in which 50% or more frames are tagged FECN (Forward Explicit Congestion Notification) by the FRP.

Transmit Statistics Table

EndPt Index
The index to the Transmit Statistics Table.

Bytes
The number of frame bytes received from the Muxbus and transmitted out the frame relay port.

Frames
The number of frames transmitted out the frame relay port.

Packets
The number of packets transmitted to the Muxbus by the local port card.

Frames FECN
The number of frames transmitted out the local frame relay port with FECN bit set.

Frames BECN
The number of frames transmitted out the local frame relay port with BECN (Backward Explicit Congestion Notification) bit set.

Frames DE set
The number of frames transmitted out the local frame relay port with their DE (Discard Eligible) bit set. DE bits are only counted by model D frame relay firmware or later.

Bytes Excess CIR
Frame Relay Endpoint transmitted bytes from port in excess of CIR.

Frames Excess CIR
Frame Relay Endpoint transmitted frames from port in excess of CIR.

Discarded Statistics Table

EndPt Index
The index to the Discarded Statistics Table.

Rx Bytes
The number of frame bytes received from the local frame relay port but discarded before being transmitted onto the Muxbus, due to the age of the frame in the IPX system or lack of buffer space.

Rx Frames
The number of frames received from the local frame relay port but discarded before being transmitted onto the Muxbus, due to the age of the frame in the IPX system or lack of buffer space.

Rx Packets
The number of packets received from the Muxbus by the local port card but discarded before being transmitted.

Rx Frames DE set
The number of frames received from the local frame relay port with their DE bit set, which are discarded before being transmitted onto the Muxbus. DE bits are only counted by model D frame relay firmware or later.

Tx Bytes
The number of frame bytes received from the Muxbus but discarded before being transmitted out the frame relay port, due to the age of the frame in the IPX system, CRC error, or lack of buffer space.

Tx Frames
The number of frames, which are discarded by the local frame relay card before being transmitted out the local port, due to the age of the frame in the IPX system, a CRC error, or lack of buffer space.

Stratacom ATM Application

This section describes the device-specific StrataCom ATM application. The StrataCom ATM application is supported by the **StComATMSwApp** model type. Table 17 lists the application-specific subviews available from the Icon Subviews menu for this application. Descriptions of the subviews follow this table.

These subviews allow you to view the values for various MIB objects that will assist you in managing the ATM connectivity of the Cisco StrataCom switch. Additional functionality is available if SPECTRUM's ATM Circuit Manager is installed. See *Advanced Application Integrations* (Page 120) for more information.

Table 17: Application Icon Subviews Menu Selections

Option	Opens the...
Bandwidth Class	Bandwidth Class view (Page 81).
Endpoint Configuration	Endpoint Configuration view (Page 85).

Table 17: Application Icon Subviews Menu Selections (Continued)

Option	Opens the...
Endpoint Statistics	Endpoint Statistics view (Page 98).
Model Information	Model Information view described in ***SPECTRUM Views***.

Bandwidth Class

This option opens the Bandwidth Class view, whic shows the ATM Bandwidth Class table and the Other End Port table.

ATM Bandwidth Class Table

Index
The index for the ATM Bandwidth Class Table.

VC Queue
The value of this object is the maximum queue depth (in cells) for this endpoint.

EFCI Queue
The threshold setting used by the explicit congestion notification feature for this endpoint's transmit queue. This value is a percentage.

QIR
The transmit Quiescent Information Rate (QIR) parameter (in cells per second) for this endpoint.

% Utilization
The value of this object is equal to the channel percentage utilization setting for this endpoint. This is the expected long-term utilization of the channel by this endpoint.

CBS
The value of this object is equal to the Compliant Burst Size (CBS) in cells for this endpoint. This object corresponds to the Maximum Burst Size (MBS) defined by ATM standard documents.

IBS
The value of this object is equal to the Initial Burst Size in cells for this endpoint.

CCDV
The value of this object is equal to the Compliant Cell Delay Variation for this endpoint. It corresponds to the CDVT (0+1) parameter defined by the ATM standard documents.

CLP High
The value of this object is equal to the CLP (Cell Loss Priority) tagging activation threshold for this endpoint.

CLP Low
The value of this object is equal to the CLP (Cell Loss Priority) tagging deactivation threshold for this endpoint.

CLP Tagging
The value of this object enables the CLP (Cell Loss Priority) tagging for handling non-compliant cells. When enabled the CLP bit is set on non-compliant cells. When disabled non-compliant cells are discarded.

ForeSight
The value of this object determines whether or not the ForeSight option is being used. If set to false, then ForeSight is not used, and if true then ForeSight will be used.

ForeS Rate Up
The value of this object is equal to the ForeSight Rate Up value in cells per second per adjust for this endpoint.

ForeS Rate Down
The value of this object is equal to the ForeSight Rate Down value expressed as percentage of MCR (Minimum Cell Rate).

QIR To
The value of this object is equal to the QIR timeout value. This object corresponds to the Initial Cell Rate (ICR) timeout.

FS Min Adjust
The value of this object is equal to the ForeSight minimum adjustment period.

Description
This field contains a textual description of this Frame Relay Bandwidth Class.

BCM
The value of this object enables the generation of RM (Resource Management) cells when congestion is detected in the connection.

FGCRA
The value of this object enables FGCRA (Frame-based Generic Rate Control Algorithm). FGCRA is applicable with AAL-5 (ATM Adaptation Layer) traffic only.

Connection Type
The value of this object defines the connection type associated with this class.

NRM
The Normal Response Mode (NRM) is the maximum number of cells a source may send for each forward RM-cell. This object applies only to ABR (Available Bit Rate) without ForeSight.

FRTT
The Fixed Round-Trip Time (FRTT) is the sum of the fixed and propagation delays from the source to a destination and back. This object applies only to ABR without ForeSight.

TBE
Transient Buffer Exposure (TBE) is the negotiated number of cells that the network would like to limit the source of sending during startup periods, before the first RM-cell returns. This object applies only to ABR without ForeSight.

VS/VD
Virtual Source/Virtual Destination (VS/VD) is used to divide an ABR connection into two or more separately controlled ABR segments. This flag indicates whether the ATM endpoint (both ends) will serve as VS/VD or not. This object applies only to ABR without ForeSight.

Policing
Specifies the traffic policing for this endpoint.

PCR
The Peak Cell Rate (PCR) (0+1) specifies an upper bound on rate at which traffic can be submitted on an ATM connection. This object applies to the First Leaky Bucket for leaving cells with Cell Loss Priority of “0” or “1.”

SCR
Sustainable Cell Rate (SCR) is an upper bound on the conforming average rate of an ATM connection, over time scales which are long

relative to those for which the PCR is defined. Enforcement of this bound by the UPC could allow the network to allocate sufficient resources, but less than those based on the PCR, and still ensure that the performance objectives (e.g., Cell Loss Ration) can be achieved.

MCR
Minimum Cell Rate (MCR) specifies the rate at which the source is always allowed to send.

Other End-Port Table

Index
The index into the From Other End-Port Table.

VC Queue
The value of this field is the maximum queue depth (in cells) for the other endpoint.

EFCI Queue
The threshold setting used by the explicit congestion notification feature for the other endpoint's transmit queue.

QIR
The transmit Quiescent Information Rate (QIR) parameter (in cells bits per second) for the other endpoint. This value can range between the MIR and PIR values and must be between "0" and "96000." This parameter has meaning only for ForeSight connections. This field corresponds to the Initial Cell Rate (ICR.)

% Utilization
The value of this object is equal to the channel percentage utilization setting for the other endpoint. This is the expected long-term utilization of the channel by the other endpoint.

CBS
The value of this object is equal to the Compliant Burst Size (CBS) in cells for the other endpoint. This field corresponds to the Maximum Burst Size (MBS) defined by ATM standard documents.

IBS
The value of this field is equal to the Initial Burst Size (IBS) in cells for the other endpoint.

CCDV
The value of this field is equal to the Compliant Dell Delay Variation (CCDV) for the other endpoint.

CLP High
The value of this field is equal to the Cell Loss Priority (CLP) tagging activation threshold for the other endpoint.

CLP Low
The value of this field is equal to the Cell Loss Priority (CLP) tagging deactivation threshold for the other endpoint.

BCM
The value of this field enables the generation of RM (Resource Management) cells when congestion is detected in the connection. This is the other endpoint view.

FGCRA
The value of this field enables Frame-based Generic Rate Control Algorithm (FGCRA), which is applicable with AAl-5 traffic only.

PCR
The Peak Cell Rate (0+1) (PCR), specifies an upper bound on rate at which traffic can be submitted on an ATM connection. This field applies to the First Leaky Bucket for leaving cells with Cell Loss Priority of “0” or “1.”

SCR
The Sustainable Cell Rate (SCR), is an upper bound on the conforming average rate of an ATM connection, over time scales which are long relative to those for which the PCR is defined. Enforcement of this bound by the UPC could allow the network to allocate sufficient resources, but less than those based on the PCR, and still ensure that the performance objectives (e.g., Cell Loss Ration) can be achieved.

MCR
Other end Minimum Cell Rate (MCR), specifies the rate at which the source is always allowed to send.

Endpoint Configuration

This option opens the Endpoint Configuration view, which shows the ATM Endpoint Tables used to model a PVC endpoint. These tables contain the traffic parameters for ATM endpoint.

ATM Endpoint Table 1

Index
The index into the table for this endpoint. Although only 5000 endpoints may exist on a node, 10000 possible index values exist to support DAX (intra-node) connections.

Description
Describes this endpoint. Contains information about the domain, nodename, slot, port, VPI (Virtual Path Identifier), and VCI (Virtual Channel Identifier) for the endpoint. Domain and nodename need not be given but slot, port, VPI, and VCI values must exist.

Other Index
The index into the remote node's ATM Endpoint table for this endpoint. For DAX (intra-node) connections, this index is associated with the local node and will be in the range of 5000 to 9999.

Other Description
Describes the remote PVC endpoint. Contains information about the domain, nodename, slot, port, VPI, and VCI for the endpoint.

Admin Status
The user requested state for endpoint table row. A user can create this VC or delete this VC by setting this object appropriately. If the endpoint is to be modified, set this object identifier to modify.

Oper Status
The actual state of the endpoint. If the state is failed, check the fields No Route Found, Bump Failure, and Test Failure to determine reason for failure.

No Route Found
The endpoint failed because no route to the remote endpoint can be found.

Bump Failure
The endpoint failed because of insufficient bandwidth to route to the remote endpoint. This may have also been caused because a higher priority connection took this endpoint's bandwidth. A higher priority connection is one with the lowest Class Of Service (COS).

End Point Fail
The endpoint failed because of a remote endpoint failure. The remote endpoint is on a node that resides in another domain making the connection an inter-domain connection.

Test Failure
The endpoint failed because of the failure of a connection test.

Connection Ptr
The general connection information pointer. Using this pointer the user can obtain connection status and routing information. This is an object identifier specifying the first column of the appropriate row in the Connection Table.

Next Pointer
The next endpointer information pointer. This allows logical sets of endpoints to be linked up; for example, the endpoints associated with a bundle or group. This is an object identifier specifying the first column of the appropriate row in the ATM Endpoint Table.

Next Endpt Ptr
The next endpoint information pointer for the port associated with this endpoint; for example, using

this pointer all ATM endpoints on a given slot/port can be determined. This is an object identifier specifying the first column of the appropriate row in the ATM Endpoint Table.

Trunk Avoid

The user selectable types of trunks to avoid for the transfer of ATM data. Current choices are to avoid satellite links, terrestrial links, or to not avoid any specific type of link. This object is optional during the creation of an endpoint.

Avoid ZCS

This is a flag to force the connection to avoid trunks with Zero Code Suppression (ZCS). This object is optional during the creation of an endpoint.

Sub type

The ATM endpoint subtype object.

BW Class

The user selectable connection class which defines the operating parameters for the connection. Any or all of these parameters can be overridden by specifying the bandwidth parameters directly. This object is required during the creation of an endpoint.

VC Queue

The maximum VC queue depth. The following configurations apply:

- Units: cells
- Applicable connection types: ATFR, ABRSTD, ABRFST, ATFR, ATFST
- Default:
  - ATFR/ATFST: 1366
  - others: 16000
- Dependency: VSVD = enable(1)
- Applicable cards:
  - ASI: T3/D3 only
    - ABR: 1-64000 cells
    - ATFR/ATFST: 1-1366 cells
  - BXM: 0-64000 cells

EFCI Queue

The threshold setting used by the explicit congestion notification feature for this endpoint's transmit queue. The following configurations apply:

- Units: percentage
- Applicable connection types: ABRSTD, ABRFST, ATFST
- Range: MCR-PCR
- Default: 50
- Dependency: ICR >= MCR, VSVD = enable (1)
- Applicable cards: BXM, ASI-T3/E3

QIR

The transmit Quiescent Information Rate (QIR) parameter. Also known as Initial Cell Rate (ICR), the rate at which a source should send initially and after an idle period. The following configurations apply:

- Units: cells per second
- Applicable connection types: ABRSTD, ABRFST, ATFST
- Range: MCR-PCR
- Default: 50
- Dependency: ICR >= MCR, VSVD = enable (1)
- Applicable cards: BXM, ASI-T3/E3

% Utilization

The channel percentage of bandwidth utilization. Bandwidth allocation based on percent utilization depends on the connection types. The following configurations apply:

- Units: % percentage
- Applicable connection types:
  - UBR: default = 1%
  - CBR: default = 100%
    bandwidth allocation = PCR(0+1) * % Util
  - VBR, ATFR:
    default = min (120* (SCR/PCR), 100%)
    bandwidth allocation = PCR (0+1) * %Util
  - ABR, ABRFST, ATFST:
    default = 100%
    bandwidth allocation = MCR * %Util

CBS

The Compliant Burst Size (CBS.) Also known as Maximum Burst Size (MBS.) The following configurations apply:

- Units: cells
- Applicable connections types:
  - VBR, ATFR
  - ABRSTD, ABRFST, ATFST: VSVD = enable (1)
- Default: 1000
- Range:
  - BXM: 1-5000000
  - ASI: 1-24000

IBS

The Initial Burst Size (IBS.) The following configurations apply:

- Units: cells
- Applicable connection types: ATFR (1-107 cells), ATFST
- Default: 1

CCDV

The Compliant Cell Delay Variation (CCDV.) Also known as CDVT (0+1,) Cell Delay Variation

Tolerance, which specifies the maximum time period for accumulated violations of cell-arrival time parameters. This field applies to the First Leaky bucket for cells with Cell Loss Priority of "0" or "1." The following configurations apply:

- Units: microseconds
- Applicable connection types: UBR, CBR, VBR, ATFR, ABRSTD, ABRFST, ATFST
- Defaults:
  - CBR: 10000
  - Others: 250000
- Dependency: This object is not allowed for BPX -> IPX atf/atfst connections.

CLP High

The Cell Loss Priority (CLP) tagging activation threshold. The following configurations apply:

- Units: % of VCQ Size
- Applicable connections: ABRSTD, ABRFST, ATFST
- Default: 80%
- Dependency: VSVD = enable (1)
- Applicable cards: BXM, ASI-T3/E3

CLP Low

The Cell Loss Priority (CLP) tagging deactivation threshold. The following configurations apply:

- Units: % of VCQ Size
- Applicable connections: ABRSTD, ABRFST, ATFST
- Default: 35%
- Dependency: VSVD = enable (1)
- Applicable cards: BXM, ASI-T3/E3

Other VC Queue

The other end maximum VC (Virtual Circuit) queue depth. The following configurations apply:

- Units: cells
- Applicable connection types: ATFR, ABRSTD, ABRFST, ATFR, ATFST
- Default:
  - ATFR/ATFST: 1366
  - Others: 16000
- Dependency: VSVD = enable (1)
- Applicable cards:
  - ASI: T3/E3 only
    - ABR: 1-64000 cells
    - ATFR/ATFST: 1-1366 cells
  - BXM: 0-64000 cells

Other EFCI Queue

The threshold setting used by the explicit congestion notification feature for the other endpoint's transmit queue. The following configurations apply:

- Units: percentage

- Applicable connection types: ABRSTD, ABRFST, ATFR, ATFST
- Default:
  - ATFR/ATFST: 100
  - Others: 30

Other QIR

The transmit Quiescent Information Rate (QIR) parameter of the other end. Also known as Initial Cell Rate (ICR,) the rate at which a source should send initially and after an idle period. The following configurations apply:

- Units: cells per second
- Applicable connection types: ABRSTD, ABRFST, ATFST
- Range: MCR-PCR
- Default: 50
- Dependency: ICR >= MCR, VSVD = enable (1)
- Applicable cards: BXM, ASI-T3/E3

Other % Utiliza

The other end channel percentage of bandwidth utilization. Bandwidth allocation based on % utilization depends on the connection types. The following configurations apply:

- Units: % percentage
- Applicable connection types:
  - UBR: default = 1%
  - CBR: default = 100%
    - bandwidth allocation = PCR (0+1) * % Util
  - VBR, ATFR:
    - default = min (120*(SCR/PCR, 100%))
    - bandwidth allocation = PCR (0+1) * %Util
  - ABR, ABRFST, ATFST:
    - default = 100%
    - bandwidth allocation = MCR * %Util

Other CBS

The other end Compliant Burst Size (CBS.) Also known as Maximum Burst Size (MBS.) The following configurations apply:

- Units: cells
- Applicable connection types: VBR, ATFR, ABRSTD, ABRFST, ATFST
- Default: 5000000
- Range:
  - BXM: 1-5000000
  - ASI: 1-24000

Other IBS

The other end Initial Burst Size (IBS.) The following configurations apply:

- Units: cells

- Applicable connection types: ATFR (1-107 cells), ATFST
- Default: 1

ATM Endpoint Table 2

Index
The index into the table for this endpoint. Although only 5000 endpoints may exist on a node, 10000 possible index values exist to support DAX (intra-node) connections.

Other CCDV
The Compliant Cell Delay Variation, also known as CDVT (0+1,) Cell Delay Variation Tolerance, which specifies the maximum time period for accumulated violations of cell-arrival time parameters. This field applies to the First Leaky bucket for cells with Cell Loss Priority of "0" or "1." The following configurations apply:

- Units: microseconds
- Applicable connection types: UBR, CBR, VBR, ATFR, ABRSTD, ABRFST, ATFST
- Default:
  - CBR: 10000
  - Others: 250000
- Dependency: This object is not allowed for BPX->IPX AFT/AFTST connections.

Other CLP High
The other Cell Loss Priority (CLP) tagging activation threshold. The following configurations apply:

- Units: % of VCQ Size
- Applicable connections: ABRSTD, ABRFST, ATFST
- Default: 80%
- Dependency: VSVD = enable(1)
- Applicable cards: BXM, ASI-T3/E3

Other CLP Low
The other end Cell Loss Priority (CLP) tagging deactivation threshold. The following configurations apply:

- Units: % of VCQ Size
- Applicable connections: ABRSTD, ABRFST, ATFST
- Default: 35%
- Dependency: VSVD = enable (1)
- Applicable cards: BXM, ASI-T3/E3

CLP Tagging
The Cell Loss Priority (CLP) tagging for handling non-compliant cells. When enabled the CLP bit is set on non-compliant cells. When disabled non-compliant cells are discarded. The following configurations apply:

- Applicable connection types: UBR
- Default: enable (1)

ForeSight

The ForeSight (FST) flow control mechanism.

RBA Rate Up

The ABR rate adjustment up. Also known as RIF, Rate Increase Factor, which controls the amount by which the cell transmission rate may increase upon receipt of an RM-cell. The following configurations apply:

- Units:
  - For ABRSTD connections, this object should be in 2^n, where n = 0 - 15
  - For FST connections, this object should be in absolute values of cells per second up to the PCR.
  - A new value should always be given for this object when a connection is changed from one type to the other, since they require different units.
- Applicable connection types: ABRSTD, ABRFST, ATFST
- Dependency: VSVD = enable (1)
- Default:
  - FST: max [PCR/128, 10]
  - ABRSTD: 128
- Applicable cards: BXM, ASI-T3/E3

RBA Rate Down

The ABR Rate adjustment down, also known as RDF, Rate Decrease Factor, which controls the amount by which the cell transmission rate may decrease upon receipt of an RM-cell. The following configurations apply:

- Units:
  - For ABRSTD connections, this object should be in 2^n, where n=0 - 15.
  - For FST connections, this object should be in percentage (0%-100%)
- Applicable connection types: ABRSTD, ABRFST, ATFST
- Dependency: VSVD = enable (1)
- Default:
  - FST: 93
  - ABRSTD: 16
- Applicable cards: BXM, ASI-T3/E3

QIR Timeout

The QIR timeout value. Also known as ACR Decrease Time Factor (ADTF,) which is the time permitted between sending RM-cells before the rate is decreased to ICR. The following configurations apply:

- Unit: milliseconds

- Applicable connection types: ABRSTD, ABRFST, ATFST: VSVD = enable (1)
- Default: 1000
- Dependency:
  - ASI: 1000-255000
  - BXM: 62-8000
- Applicable cards: BXM, ASI-T3/E3

FrSght Min Adjust
The ForeSight minimum adjustment period. Also known as TRM, which provides an upper bound on the time between forward RM-cells for an active source. The following configurations apply:

- Units: milliseconds
- Applicable connection types: ABRSTD, ABRFST, AFTST: VSVD = enable (1)
- Default: 100
- Range:
  - ASI T3/E3: 20-250 msec
  - BXM:
    - ABRSTD: 1-100 msec
    - ABRFST: 3-255 msec
- Applicable cards: BSM, ASI-T3/E3

Group Flag
Specifies whether this is a grouped connection.

OAM State
The end to end OAM state.

RM Cell Gener
The value of this field enables the generation of RM cells when congestion is detected in this connection. The following configurations apply:

- Applicable connection types: ABRSTD, ABRFST, ATFST
- Default: disable (2)
- Applicable cards: BXM, ASI-T3/E3

FGCRA
The Frame-based Generic Rate Control Algorithm (FGCRA) applicable with AAL-5 traffic only, so it is also known as AAL5 Frame-based Traffic Control (FBTC.) The following configurations apply:

- Applicable connection types:
  - UBR, VBR, ABRSTD, ABRFST, ATFST
  - ATFR: Cannot be set, but always enable (1)
- Default:
  - UBR, ABR: enable (1)
  - others: disable (2)
  - All VPCs: disable (2), regardless of the connection type.

Local Lpbk State
Specifies the Local Loopback State the user would like to set for the endpoint.

Loopback State
Specifies the current loopback state of the endpoint.

Test Type
Specifies the type of test the user would like to conduct on this endpoint.

Round Trip Delay
The value of this field is the calculated round trip delay (measured in milliseconds) for an OAM cell that is sent across the network to the remote node where it is looped back and returned to this node.

Other BCM
The value of this field is equivalent to ATM Endpoint BCM.

Other FGCRA
The value of this field is equivalent to ATM Endpoint FGCRA.

Group Description
Describes the group this endpoint is associated with.

Local-Remote Lpbk State
Specifies the Local-Remote Loopback State set for the endpoint.

NRM
The maximum number of cells a source may send for each forward RM-cell. The following configurations apply:

- Units: cells
- Applicable connection types: ABRSTD only
- Default: 32
- Dependency: VSVD = enable (1)
- Applicable cards: BXM only

FRTT
The Fixed Round-Trip Time (FRTT) is the sum of the fixed and propagation delays from the source to a destination and back. The following configurations apply:

- Units: milliseconds
- Applicable connection types: ABRSTD only
- Default: 0
- Dependency: VSVD = enable (1)
- Applicable cards: BXM only

TBE
The Transient Buffer Exposure (TBE) is the negotiated number of cells that the network would like to limit the source to sending during startup periods, before the first RM-cell returns. The following configurations apply:

- Units: cells

- Applicable connection types: ABRSTD only
- Default: 1048320
- Dependency: VSVD = enable (1)
- Applicable cards: BXM only

VS/VD

The Virtual Source/Virtual Destination (VS/VD) is used to divide an ABR (Available Bit Rate) connection into two or more separately controlled ABR segments. This flag indicates whether the ATM endpoints (both ends) will serve as VS/VD or not. The following configurations apply:

- Applicable connection types:
  - ABRSTD
  - ABRFST: Cannot be set, but always disable (2).
  - ATFST: Cannot be set, but always disable (2).
- Dependency:
  - This object can be given only if ABR/VSVD software package is equipped; otherwise, it will be rejected regardless of its value.

Policing

Specifies the traffic policing for this endpoint. The following configurations apply:

- Applicable connection types:
  - CBR (only pcrplc (4) or none (5)), VBR, ATFR, ABRSTD, ABRFST, ATFST: VSVD = enable (1)
- Default: CBR connections - pcrplc (4)
  others - vbr3 (3)
- Dependency: Not allowed for ABRSTD without VSVD. In this case, it is set to pcrplc (4).

PCR

The Peak Cell Rate, PCR (0+1,) specifies an upper bound on rate at which traffic can be submitted on an ATM connection. This object applies to the First Leaky Bucket for leaving cells with Cell Loss Priority of “0” or “1.” The following configurations apply:

- Units: cells per second
- Applicable connection types: UBR, CBR, VBR, ATFR, ABRSTD, ABRFST, ATFST
- Default: 50
- Ranges:
  - T3: MCR-96000
  - E3: MCR-80000
  - OC3: MCR-353208
  - OC12: MCR-1412832
  - Limited to 7-5333 cells/sec for ATFR connections.

Other PCR

The other end PCR (0+1,) Peak Cell Rate, specifies an upper bound on rate at which traffic can be submitted on an ATM connection. This object applies to the First Leaky Bucket for leaving cells with Cell Loss Priority of “0” or “1.” The following configurations apply:

- Units: cells per second
- Applicable connection types: UBR, CBR, VBR, ATFR, ABRSTD, ABRFST, ATFST
- Default: 50
- Ranges:
  - T3: MCR-96000
  - E3: MCR-80000
  - OC3: MCR-353208
  - OC12: MCR-1412832
  - Limited to 7-5333 cells/sec for ATFR connections.

SCR

The Sustainable Cell Rate (SCR,) is an upper bound on the conforming average rate of an ATM connection, over time scales which are long relative to those for which the PCR is defined. Enforcement of this bound by the UPC could allow the network to allocate sufficient resources, but less than those based on the PCR, and still ensure that the performance objectives (e.g., Cell Loss Ration) can be achieved. The following configurations apply:

- Units: cell per second
- Applicable connection types:
  - VBR, ATFR
  - ABRSTD, ABRFST, ATFST: VSVD = enable (1)
- Ranges:
  - ASI/BNI
    - T3: 7-96000
    - E3: 7-80000
    - OC3: 7-353208
  - BXM
    - T3: 50-96000
    - E3: 50-80000
    - OC3: 50-353208
    - OC12: 50-1412832
- Default: 50

Other SCR

The Other end SCR, Sustainable Cell Rate, is an upper bound on the conforming average rate of an ATM connection, over time scales which are long relative to those for which the PCR is defined. Enforcement of this bound by the UPC could allow the network to allocate sufficient resources, but less than those based on the PCR, and still ensure that the performance objectives (e.g., Cell

Loss Ration) can be achieved. The following configurations apply:

- Units: cell per second
- Applicable connection types:
  - VBR, ATFR
  - ABRSTD, ABRFST, ATFST: VSVD = enable (1)
- Ranges:
  - ASI/BNI
    - T3: 7-96000
    - E3: 7-80000
    - OC3: 7-353208
  - BXM
    - T3: 50-96000
    - E3: 50-80000
    - OC3: 50-353208
    - OC12: 50-1412832
- Default: 50

MCR

The MCR, Minimum Cell Rate, specifies the rate at which the source is always allowed to send. The following configurations apply:

- Units: cells per second
- Applicable connection types: ABRSTD, ABRFST, ATFST
- Range:
  - ASI/BNI
    - Tc: 0-96000
    - E3: 0-80000
    - OC3: 0-353208
  - BXM
    - T3: 6-96000
    - E3: 6-80000
    - OC3: 6-353208
    - OC12: 6-1412832
- Default: 50
- Applicable cards: BSM, ASI-T3/E3

Other MCR

The other end MCR, Minimum Cell Rate, specifies the rate at which the source is always allowed to send. The following configurations apply:

- Units: cells per second
- Applicable connection types: ABRSTD, ABRFST, ATFST
- Range:
  - ASI
    - T3: 0-96000
    - E3: 0-80000
    - OC3: 0-353208
  - BXM
    - T3: 6-96000
    - E3: 6-80000

  - OC3: 6-353208
  - OC12: 6-1412832
- Default: 50
- Applicable cards: BXM, ASI-T3/E3

Endpoint Statistics

This option opens the Endpoint Statistics view, which shows the ATM connection endpoint statistics for received, transmitted, and discarded statistics.

Received Statistics Table

Endpoint
The index to the Received Statistics Table.

Cells Port
The number of cells delivered to the port from the line interface.

Frames Port
The number of frames delivered to the port from the line interface.

CLP
The number of cells delivered to the port from the line interface which had their CLP (Cell Loss Priority) bit set.

Violate UPC
The number of cells that violated UPC (Usage Parameter Control.)

EFCI
The number of cells received with EFCI (Explicit Forward Congestion Indication) set.

Non-Compliant
The number of non-compliant cells received.

VC Queue Avg
The average queue depth of the VC (Virtual Circuit) queue.

BCM
The number of BCM cells received from the port. This object only applies to NNI (Network-to-Network) ports. For UNI ports returns “0.”

Cells Net
The number of cells received from the network.

AIS
The number of received AIS (Alarm Indication Signal) cells.

FERF
The number of received FERF (Far-End Receive Failure) cells.

Transmit Statistics Table

Endpoint
The index to the Transmit Statistics Table.

Cells Net
The number of received cells delivered to the network.

BCM
The number of BCM cells transmitted to the network.

OAM
The number of OAM (Operation, Administration, and Maintenance) cells transmitted to the network.

CLP
The number of cells transmitted to the port that had their CLP bit set.

EFCI
The number of cells transmitted by the port to the line interface that had EFCI (Explicit Forward Congestion Indication) set.

Cells Ports
The number of cells transmitted to the port interface.

Discard Statistics Table

Endpoint
The index to the Discard Statistics Table.

CLP From VC
The number of cells with CLP set that were discarded due to VC queue exceeding CLP thresholds.

VC Queue Full
The number of received cells that were discarded due to the VC queue being full.

Connect Fail
The number of received cells discarded due to the connection being in failed state.

Resource Overflow
The number of received cells discarded due to a resource overflow (e.g., cell buffer full.)

Sbin Full
The number of cells discarded on receipt from the port due to Sbin full.

Qbin Full
The number of cells discarded due to the egress Qbin being full.

CLP From Qbin Full
The number of cells with CLP set that are discarded due to the egress Qbin exceeding CLP (Cell Loss Priority) thresholds.

Performance Views

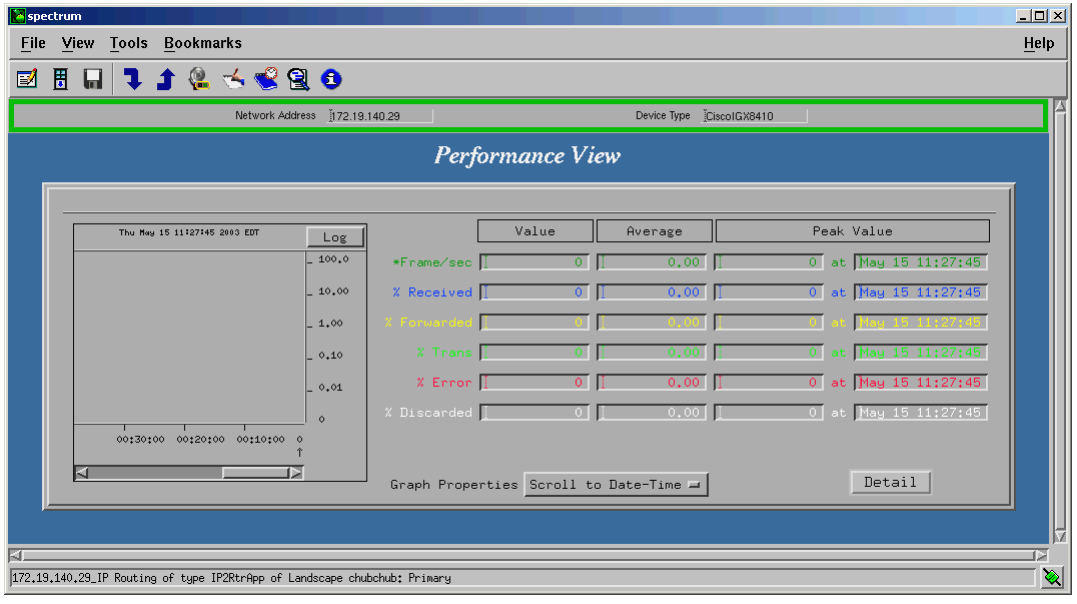
This section describes the Device and Port Performance views that give statistical information for the Cisco Stratacom BPX8600 and IGX8400 Series of devices.

Performance views (Figure 8 (Page 102)) provide you with multi-attribute line graphs that represent statistical information about the operation of the device. A Detail button opens up pie charts that show packet information for the device and its ports. The following performance views are described in this section:

- *Performance View* (Page 103)
- *Port Performance View* (Page 103)

A general description of performance views is provided in the ***SPECTRUM Views*** documentation.

Figure 8: StrataCom Performance View


spectrum
File View Tools Bookmarks Help
Network Address 172.19.140.29
Device Type CiscoIGX8410
Performance View
Thu May 15 11:27:45 2003 EDT
Log
100.0
10.00
1.00
0.10
0.01
0
00:30:00 00:20:00 00:10:00 0
Value Average Peak Value
*Frame/sec 0 0.00 0 at May 15 11:27:45
% Received 0 0.00 0 at May 15 11:27:45
% Forwarded 0 0.00 0 at May 15 11:27:45
% Trans 0 0.00 0 at May 15 11:27:45
% Error 0 0.00 0 at May 15 11:27:45
% Discarded 0 0.00 0 at May 15 11:27:45
Graph Properties Scroll to Date-Time
Detail
172.19.140.29_IP Routing of type IP2RtrApp of Landscape chubchub: Primary

Performance View

This view provides statistical information about the packets being passed through the device. To access this view, select **Performance** from the **Icon Subviews** menu for the Device icon. For the definitions for these statistics and a description of performance views, refer to the ***SPECTRUM Views*** documentation. The following packet statistics for the entire device are displayed in this view:

- * Frame Rate
- % Delivered
- % Forwarded
- % Transmit
- % Error
- % Discarded

Port Performance View

This view provides statistical information about the packets being passed through a particular interface. To access this view, select **Performance** from the **Icon Subviews** menu for an Interface icon within the Device view or DevTop view. The following packet statistics for the selected interface are displayed in this view:

- Load
- Packet Rate
- % Error
- % Discarded

Table 18 lists the Port Performance view buttons and the subviews they open.

Table 18: Port Performance View Buttons

Button	Opens the...
Detail	Interface Detail view which displays packet, error, and discarded breakdown statistics.
Transmit	Detailed Port Performance view for packets transmitted.
Receive	Detailed Port Performance view for packets received.
Configuration	Interface Configuration view.
Threshold	Interface Threshold view, which allows you to set the thresholds for load, packet rate, error rate, and % discarded.
Alarms	Enterprise Alarm Manager.
Events	Event Log.

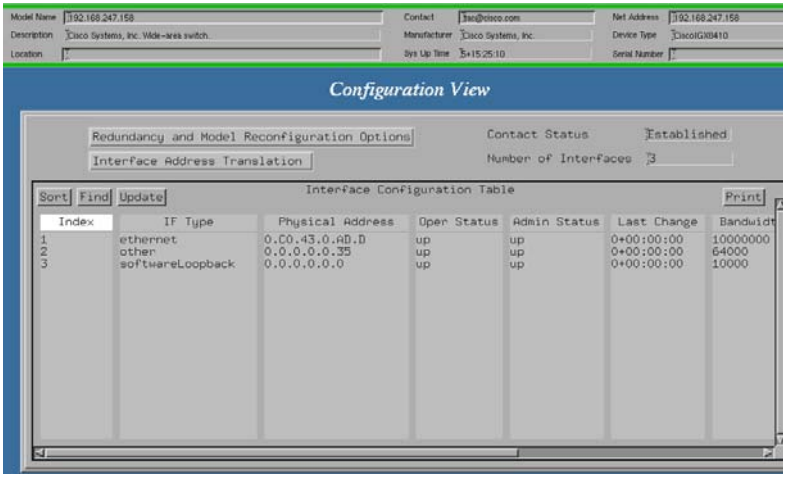
Device Configuration View

This section provides you with an overview of the Device Configuration view.

The Device Configuration view allows you to access network configuration and monitoring information, as well as traffic flow and error data.

Located below the banner you will find the Interface Configuration Table which provides port configuration information for each of the device's ports. Double-clicking on any column entry for a particular port accesses an Interface Configuration - Information view. Figure 9 shows an example of the Device Configuration View for the Cisco StrataCom. For more general information regarding the Device Configuration view, see the ***SPECTRUM Views*** documentation.

Figure 9: StrataCom Device Configuration View

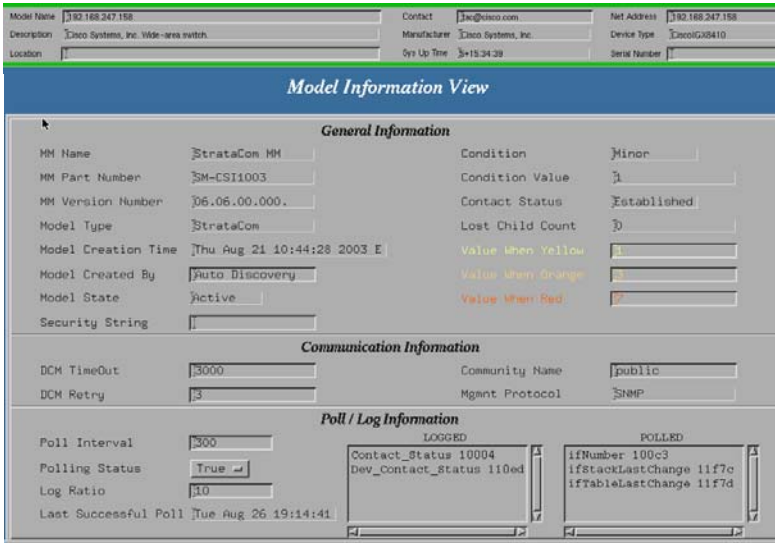


Model Information View

This section provides you with an overview of the Model Information View.

Model Information views provide descriptive and configuration information about SPECTRUM models of individual devices, interfaces, and applications. Figure 10 shows an example of the Model Information view accessed from the Icon Subviews menu for the StrataCom model's Device icon. Model Information views are also available for each of the Interface icons in the Interface Device and Interface Device Topology views, and for each of the Application icons in the Application views. Although these views may vary slightly depending on the particular entity being modeled, their basic layout and content are similar for most SPECTRUM management modules. Therefore these views are described in more detail in the ***SPECTRUM Views*** documentation.

Figure 10: StrataCom Model Information View



Traps, Events, and Alarms

This section provides you with an overview of trap, event, and alarm support.

This section describes any device-specific events and alarms supported by the Cisco Stratacom BPX8600 and IGX8400 Series (SM-CIS1003) management module.

- *Standard Trap Support*
- *Device-Specific Trap Support*

Standard Trap Support

The following standard traps are supported.

Table 19: Standard Trap Support

Standard Trap Name	OID
coldStart	0.0
warmStart	1.0
linkDown	2.0
linkUp	3.0
authenticationFailure	4.0
egpNeighborLoss	5.0

Device-Specific Trap Support

The supported device-specific traps are listed in Table 20 (Page 107).

Table 20: STRATACOM-TRAP-MIB Traps

Trap Name	OID	Variable Bindings	Event Generated	Alarm Generated	Alarm Severity	Alarm Cleared	Alarm Discriminator
switchAlarmState (Page 117)	1.3.6.1.4.1.351.100.4.6.10000	trapRegSeqNum, shelfCnfgNodeName, shelfCnfgNodeNumber, shelfCnfgDomainNumber, shelfCnfgTrapSeverity, shelfCnfgAlarmStatus	0x02b60000	0x02b60000	Yellow		
switchRestart (Page 117)	1.3.6.1.4.1.351.100.4.6.10001	trapRegSeqNum, shelfCnfgNodeName, shelfCnfgNodeNumber, shelfCnfgDomainNumber, shelfCnfgTrapSeverity	0x02b60001	0x02b60001	Yellow		
switchProcSwitchOver (Page 117)	1.3.6.1.4.1.351.100.4.6.10002	trapRegSeqNum, shelfCnfgNodeName, shelfCnfgNodeNumber, shelfCnfgDomainNumber, shelfCnfgTrapSeverity	0x02b60002	0x02b60002	Yellow		
switchEventOverflow (Page 117)	1.3.6.1.4.1.351.100.4.6.10003	trapRegSeqNum, shelfCnfgNodeName, shelfCnfgNodeNumber, shelfCnfgDomainNumber, shelfCnfgTrapSeverity	0x02b60003	0x02b60003	Yellow		
switchSlotInserted (Page 117)	1.3.6.1.4.1.351.100.4.6.10004	trapRegSeqNum, shelfCnfgNodeName, shelfCnfgNodeNumber, shelfCnfgDomainNumber, shelfCnfgTrapSeverity, slotIndex, slotFrontType, slotBackType	0x02b60004	0x02b60004	Yellow	0x02b60005	slotIndex

Table 20: STRATACOM-TRAP-MIB Traps

Trap Name	OID	Variable Bindings	Event Generated	Alarm Generated	Alarm Severity	Alarm Cleared	Alarm Discriminator
switchSlotRemoved (Page 117)	1.3.6.1.4.1.351.100.4.6.10005	trapRegSeqNum, shelfCnfgNodeName, shelfCnfgNodeNumber, shelfCnfgDomainNumber, shelfCnfgTrapSeverity, slotIndex, slotFrontType, slotBackType	0x02b60005	0x02b60005	Yellow	0x02b60004	slotIndex
switchSlotActive (Page 117)	1.3.6.1.4.1.351.100.4.6.10006	trapRegSeqNum, shelfCnfgNodeName, shelfCnfgNodeNumber, shelfCnfgDomainNumber, shelfCnfgTrapSeverity, slotIndex, slotFrontType, slotBackType	0x02b60006			0x02b60007	slotIndex
switchSlotInactive (Page 117)	1.3.6.1.4.1.351.100.4.6.10007	trapRegSeqNum, shelfCnfgNodeName, shelfCnfgNodeNumber, shelfCnfgDomainNumber, shelfCnfgTrapSeverity, slotIndex, slotFrontType, slotBackType	0x02b60007	0x02b60007	Yellow		slotIndex
switchSlotEnabled (Page 117)	1.3.6.1.4.1.351.100.4.6.10008	trapRegSeqNum, shelfCnfgNodeName, shelfCnfgNodeNumber, shelfCnfgDomainNumber, shelfCnfgTrapSeverity, slotIndex, slotFrontType, slotBackType	0x02b60008			0x02b60009	slotIndex

Table 20: STRATACOM-TRAP-MIB Traps

Trap Name	OID	Variable Bindings	Event Generated	Alarm Generated	Alarm Severity	Alarm Cleared	Alarm Discriminator
switchSlotDisabled (Page 117)	1.3.6.1.4.1.351.100.4.6.10009	trapRegSeqNum, shelfCnfgNodeName, shelfCnfgNodeNumber, shelfCnfgDomainNumber, shelfCnfgTrapSeverity, slotIndex, slotFrontType, slotBackType	0x02b60009	0x02b60009	Yellow		slotIndex
switchSlotFailed (Page 117)	1.3.6.1.4.1.351.100.4.6.10010	trapRegSeqNum, shelfCnfgNodeName, shelfCnfgNodeNumber, shelfCnfgDomainNumber, shelfCnfgTrapSeverity, slotIndex, slotFrontType, slotBackType	0x02b6000a	0x02b6000a	Orange		slotIndex
switchSlotClear (Page 117)	1.3.6.1.4.1.351.100.4.6.10011	trapRegSeqNum, shelfCnfgNodeName, shelfCnfgNodeNumber, shelfCnfgDomainNumber, shelfCnfgTrapSeverity, slotIndex, slotFrontType, slotBackType	0x02b6000b			0x02b6000a	slotIndex
switchInvLogAlarm (Page 118)	1.3.6.1.4.1.351.100.4.6.10012	trapRegSeqNum, shelfCnfgNodeName, shelfCnfgNodeNumber, shelfCnfgDomainNumber, shelfCnfgTrapSeverity	0x02b6000c	0x02b6000c	Orange		

Table 20: STRATACOM-TRAP-MIB Traps

Trap Name	OID	Variable Bindings	Event Generated	Alarm Generated	Alarm Severity	Alarm Cleared	Alarm Discriminator
frLPortActive (Page 118)	1.3.6.1.4.1.351.100.4.6.12000	trapRegSeqNum, shelfCnfgNodeName, shelfCnfgNodeNumber, shelfCnfgDomainNumber, shelfCnfgTrapSeverity, frLportSlotIndex, frLportPortIndex	0x02b6000d			0x02b6000e	frLportSlotIndex, frLportPortIndex
frLPortInactive (Page 118)	1.3.6.1.4.1.351.100.4.6.12001	trapRegSeqNum, shelfCnfgNodeName, shelfCnfgNodeNumber, shelfCnfgDomainNumber, shelfCnfgTrapSeverity, frLportSlotIndex, frLportPortIndex	0x02b6000e	0x02b6000e	Yellow		frLportSlotIndex, frLportPortIndex
frLPortFailed (Page 118)	1.3.6.1.4.1.351.100.4.6.12002	trapRegSeqNum, shelfCnfgNodeName, shelfCnfgNodeNumber, shelfCnfgDomainNumber, shelfCnfgTrapSeverity, frLportSlotIndex, frLportPortIndex	0x02b6000f	0x02b6000f	Yellow		frLportSlotIndex, frLportPortIndex
frLPortClear (Page 118)	1.3.6.1.4.1.351.100.4.6.12003	trapRegSeqNum, shelfCnfgNodeName, shelfCnfgNodeNumber, shelfCnfgDomainNumber, shelfCnfgTrapSeverity, frLportSlotIndex, frLportPortIndex	0x02b60010			0x02b60010	frLportSlotIndex, frLportPortIndex

Table 20: STRATACOM-TRAP-MIB Traps

Trap Name	OID	Variable Bindings	Event Generated	Alarm Generated	Alarm Severity	Alarm Cleared	Alarm Discriminator
atmLPortActive (Page 118)	1.3.6.1.4.1.351.100.4.6.12100	trapRegSeqNum, shelfCnfgNodeName, shelfCnfgNodeNumber, shelfCnfgDomainNumber, shelfCnfgTrapSeverity, atmPortSlot, atmPortPort	0x02b60011			0x02b60012	atmPortSlot, atmPortPort
atmLPortInactive (Page 118)	1.3.6.1.4.1.351.100.4.6.12101	trapRegSeqNum, shelfCnfgNodeName, shelfCnfgNodeNumber, shelfCnfgDomainNumber, shelfCnfgTrapSeverity, atmPortSlot, atmPortPort	0x02b60012	0x02b60012	Yellow		atmPortSlot, atmPortPort
atmLPortFailed (Page 118)	1.3.6.1.4.1.351.100.4.6.12102	trapRegSeqNum, shelfCnfgNodeName, shelfCnfgNodeNumber, shelfCnfgDomainNumber, shelfCnfgTrapSeverity, atmPortSlot, atmPortPort	0x02b60013	0x02b60013	Yellow		atmPortSlot, atmPortPort
atmLPortClear (Page 118)	1.3.6.1.4.1.351.100.4.6.12101	trapRegSeqNum, shelfCnfgNodeName, shelfCnfgNodeNumber, shelfCnfgDomainNumber, shelfCnfgTrapSeverity, atmPortSlot, atmPortPort	0x02b60014			0x02b60013	atmPortSlot, atmPortPort

Table 20: STRATACOM-TRAP-MIB Traps

Trap Name	OID	Variable Bindings	Event Generated	Alarm Generated	Alarm Severity	Alarm Cleared	Alarm Discriminator
frEndptActive (Page 118)	1.3.6.1.4.1.351.100.4.6.13000	trapRegSeqNum, shelfCnfgNodeName, shelfCnfgNodeNumber, shelfCnfgDomainNumber, shelfCnfgTrapSeverity, frEndptIndex, frEndptDesc	0x02b60015			0x02b60016, 0x2b660017	frEndptIndex
frEndptInactive (Page 118)	1.3.6.1.4.1.351.100.4.6.13001	trapRegSeqNum, shelfCnfgNodeName, shelfCnfgNodeNumber, shelfCnfgDomainNumber, shelfCnfgTrapSeverity, frEndptIndex, frEndptDesc	0x02b60016	0x02b60016	Yellow		frEndptIndex
frEndptDelete (Page 118)	1.3.6.1.4.1.351.100.4.6.13002	trapRegSeqNum, shelfCnfgNodeName, shelfCnfgNodeNumber, shelfCnfgDomainNumber, shelfCnfgTrapSeverity, frEndptIndex, frEndptDesc	0x02b60017	0x02b60017	Yellow	0x02b60016	frEndptIndex
frEndptFailed (Page 118)	1.3.6.1.4.1.351.100.4.6.13003	trapRegSeqNum, shelfCnfgNodeName, shelfCnfgNodeNumber, shelfCnfgDomainNumber, shelfCnfgTrapSeverity, frEndptIndex, frEndptDesc	0x02b60018	0x02b60018	Yellow		frEndptIndex

Table 20: STRATACOM-TRAP-MIB Traps

Trap Name	OID	Variable Bindings	Event Generated	Alarm Generated	Alarm Severity	Alarm Cleared	Alarm Discriminator
frEndptClear (Page 118)	1.3.6.1.4.1.351.100.4.6.13004	trapRegSeqNum, shelfCnfgNodeName, shelfCnfgNodeNumber, shelfCnfgDomainNumber, shelfCnfgTrapSeverity, frEndptIndex, frEndptDesc	0x02b60019			0x02b60018	frEndptIndex
atmEndptActive (Page 118)	1.3.6.1.4.1.351.100.4.6.13100	trapRegSeqNum, shelfCnfgNodeName, shelfCnfgNodeNumber, shelfCnfgDomainNumber, shelfCnfgTrapSeverity, atmEndptIndex, atmEndptDesc	0x02b6001a			0x02b6001b, 0x2b66001c	atmEndptIndex
voiceEndptInactive (Page 119)	1.3.6.1.4.1.351.100.4.6.13101	trapRegSeqNum, shelfCnfgNodeName, shelfCnfgNodeNumber, shelfCnfgDomainNumber, shelfCnfgTrapSeverity, atmEndptIndex, atmEndptDesc	0x02b6001b	0x02b6001b	Yellow		atmEndptIndex
voiceEndptDelete (Page 119)	1.3.6.1.4.1.351.100.4.6.13102	trapRegSeqNum, shelfCnfgNodeName, shelfCnfgNodeNumber, shelfCnfgDomainNumber, shelfCnfgTrapSeverity, atmEndptIndex, atmEndptDesc	0x02b6001c	0x02b6001c	Yellow	0x02b6001b	atmEndptIndex

Table 20: STRATACOM-TRAP-MIB Traps

Trap Name	OID	Variable Bindings	Event Generated	Alarm Generated	Alarm Severity	Alarm Cleared	Alarm Discriminator
atmEndptFailed (Page 119)	1.3.6.1.4.1.351.100.4.6.13103	trapRegSeqNum, shelfCnfgNodeName, shelfCnfgNodeNumber, shelfCnfgDomainNumber, shelfCnfgTrapSeverity, atmEndptIndex, atmEndptDesc	0x02b6001d	0x02b6001d	Yellow		atmEndptIndex
atmEndptClear (Page 119)	1.3.6.1.4.1.351.100.4.6.13104	trapRegSeqNum, shelfCnfgNodeName, shelfCnfgNodeNumber, shelfCnfgDomainNumber, shelfCnfgTrapSeverity, atmEndptIndex, atmEndptDesc	0x02b6001e			0x02b6001d	atmEndptIndex

Table 20: STRATACOM-TRAP-MIB Traps

Trap Name	OID	Variable Bindings	Event Generated	Alarm Generated	Alarm Severity	Alarm Cleared	Alarm Discriminator
voiceEndptActive (Page 119)	1.3.6.1.4.1.351.100.4.6.13200	trapRegSeqNum, shelfCnfgNodeName, shelfCnfgNodeNumber, shelfCnfgDomainNumber, shelfCnfgTrapSeverity, voiceEndptIndex, voiceEndptDesc, voiceEndptSvcId	0x02b6001f			0x02b60020, 0x2b660021	voiceEndptIndex
voiceEndptInactive (Page 119)	1.3.6.1.4.1.351.100.4.6.13201	trapRegSeqNum, shelfCnfgNodeName, shelfCnfgNodeNumber, shelfCnfgDomainNumber, shelfCnfgTrapSeverity, voiceEndptIndex, voiceEndptDesc, voiceEndptSvcId	0x02b60020	0x02b60020	Yellow		voiceEndptIndex
voiceEndptDelete (Page 119)	1.3.6.1.4.1.351.100.4.6.13202	trapRegSeqNum, shelfCnfgNodeName, shelfCnfgNodeNumber, shelfCnfgDomainNumber, shelfCnfgTrapSeverity, voiceEndptIndex, voiceEndptDesc, voiceEndptSvcId	0x02b60021	0x02b60021	Yellow	0x02b60020	voiceEndptIndex

Table 20: STRATACOM-TRAP-MIB Traps

Trap Name	OID	Variable Bindings	Event Generated	Alarm Generated	Alarm Severity	Alarm Cleared	Alarm Discriminator
voiceEndptFailed (Page 119)	1.3.6.1.4.1.351.100.4.6.13203	trapRegSeqNum, shelfCnfgNodeName, shelfCnfgNodeNumber, shelfCnfgDomainNumber, shelfCnfgTrapSeverity, voiceEndptIndex, voiceEndptDesc, voiceEndptSvcId	0x02b60022	0x02b60022	Yellow		voiceEndptIndex
voiceEndptClear (Page 119)	1.3.6.1.4.1.351.100.4.6.13204	trapRegSeqNum, shelfCnfgNodeName, shelfCnfgNodeNumber, shelfCnfgDomainNumber, shelfCnfgTrapSeverity, voiceEndptIndex, voiceEndptDesc, voiceEndptSvcId	0x02b60023			0x02b60022	voiceEndptIndex

Proprietary Trap Descriptions

switchAlarmState
A switchAlarmState trap signifies that the sending protocol entity is entering a new alarm state.

switchRestart
A switchRestart trap signifies that the sending protocol entity has experienced a cold start (rebuild) of it's processor card.

switchProcSwitchOver
A switchProcSwitchOver trap signifies that the sending protocol entity has experienced a switchover of it's processor card.

switchEventOverflow
A switchEventOverflow trap signifies that the sending protocol entity has experienced an overflow of events. Events have been discarded within the switch.

switchSlotInserted
A switchSlotInserted trap is generated when a new card is inserted into the switch shelf.

switchSlotRemoved
A switchSlotRemoved trap is generated when a card is removed from the switch shelf.

switchSlotActive
A switchSlotActive trap is generated when a new card is configured as active within the switch shelf.

switchSlotInactive
A switchSlotDeactivated trap is generated when a card is configured as inactive within the switch shelf.

switchSlotEnabled
A switchSlotEnabled trap is generated when a card is configured from the downed state within the switch shelf.

switchSlotDisabled
A switchSlotDisabled trap is generated when a card is configured to the downed state within the switch shelf.

switchSlotFailed
A switchSlotFailed trap is generated when a card has transitioned into the failed state within the switch shelf.

switchSlotClear
A switchSlotClear trap is generated when a card has transitioned from the failed state within the switch shelf.

switchInvLogAlarm
A switchInvLogAlarm trap signifies that the sending protocol entity has experienced too many consecutive invalid login attempts and may be under attack.

frLPortActive
A frLPortActive trap is generated when a Frame Relay Port transitions to the active state.

frLPortInactive
A frLPortInactive trap is generated when a Frame Relay Port transitions to the inactive state.

frLPortFailed
A frLPortFailed trap is generated when a Frame Relay Port transitions to the failed state.

frLPortClear
A frLPortClear trap is generated when a Frame Relay Port transitions from the failed state.

atmLPortActive
An atmLPortActive trap is generated when an ATM Port transitions to the active state.

atmLPortInactive
An atmLPortInactive trap is generated when an ATM Port transitions to the inactive state.

atmLPortFailed
An atmLPortFailed trap is generated when an ATM Port transitions to the failed state.

atmLPortClear
An atmLPortClear trap is generated when an ATM Port transitions from the failed state.

frEndptActive
A frEndptActive trap is generated when a new Frame Relay endpoint becomes active.

frEndptInactive
A frEndptInactive trap is generated when a new Frame Relay endpoint is deactivated (Downed).

frEndptDelete
A frEndptDelete trap is generated when a Frame Relay endpoint is deleted.

frEndptFailed
A frEndptFailed trap is generated when a Frame Relay endpoint transitions to the failed state.

frEndptClear
A frEndptClear trap is generated when a Frame Relay endpoint transitions from the failed state.

atmEndptActive
An atmEndptActive trap is generated when a new ATM endpoint becomes active.

atmEndptInactive
An atmEndptInactive trap is generated when a new ATM endpoint is deactivated (Downed).

atmEndptDelete
An atmEndptDelete trap is generated when an ATM endpoint is deleted.

atmEndptFailed
An atmEndptFailed trap is generated when an ATM endpoint transitions to the failed state.

atmEndptClear
An atmEndptClear trap is generated when an ATM endpoint transitions from the failed state.

voiceEndptActive
A voiceEndptActive trap is generated when a voice endpoint transitions to the active state.

voiceEndptInactive
A voiceEndptInactive trap is generated when a voice endpoint is deactivated (Downed).

voiceEndptDelete
A voiceEndptDelete trap is generated when a voice endpoint is deleted.

voiceEndptFailed
A voiceEndptFailed trap is generated when a voice endpoint transitions to the failed state.

voiceEndptClear
A voiceEndptClear trap is generated when a voice endpoint transitions from the failed state.

Advanced Application Integrations

This section describes the Frame Relay and ATM integrations that are available for this management module.

StrataCom Frame Relay Integration

The StrataCom Frame Relay integration is available when a SPECTRUM installation includes the Cisco StrataCom BPX8600 and IGX8400 series management module and SPECTRUM's Frame Relay Manager.

This integration uses two model types that allow you to effectively model and manage Cisco StrataCom Switches that operate in a Frame Relay environment. StComFRApp is the application model type that supports the frame relay portions of the STRATACOM-MIB. StComDLCIPort is a sub-interface model type that allows you to manage DLCI ports on a Cisco Stratacom Switch.

SPECTRUM will create the StComFRApp application for any device that supports the STRATACOM-MIB. If SPECTRUM's Frame Relay Manager is not installed, several basic views are available for this application. For an explanation of these views, see the *Stratacom Frame Relay Application* on Page 70.

If you have Frame Relay Manger installed, an additional view is available for the StComFRApp and the StComDLCIPort model type is supported. This additional functionality is explained in the following sections:

- *StrataCom Frame Relay Application Endpoint Connection View* (Page 121)
- *Stratacom Frame Relay DLCI Port Model* (Page 121)

See the ***Frame Relay Manager User Guide (2102)*** for complete information on SPECTRUM's Frame Relay Manager.

StrataCom Frame Relay Application Endpoint Connection View

This option displays the DLCI Connection view, which displays connectivity information about each of the DLCI ports managed by the frame relay application. For complete information on this view, see the “Frame Relay Application Models” section of the ***Frame Relay Manager User Guide (2102)***.

Stratacom Frame Relay DLCI Port Model

The StComDLCIPort is a sub-interface model type which represents the DLCI ports on a Cisco StrataCom switch. The following sections give a brief description of the subviews available from the Icon Subviews menu for this DLCI port model type. The StComDLCIPort model type has much of the same functionality as the Frame Relay Manger DLCI_Port model type. Features unique to the StComDLCIPort subviews are noted in the descriptions below. Additional details about each view can be found in the “Managing Frame Relay Networks” section of the ***Frame Relay Manger User Guide (2102).***

Note: Autodiscovery does not support the discovery of StComDLCIPort models or resolving connectivity to StComDLCIPort models. However, it is possible to use the Frame Relay Manager wanimport tool to map connections to StComDLCIPort models in the same manner as other DLCI ports. See the “Importing Connectivity Information” section of the ***Frame Relay Manager User Guide (2102)*** for complete instructions.

Information

This view allows you to set polling and logging information for the port model. It is possible to configure SPECTRUM to poll DLCI ports at regular intervals. When SPECTRUM polls these ports it captures the values of various external MIB objects. You can choose to log these values and use them for monitoring and analyzing the performance of a port.

Port Performance

This view shows graphs of two sets of statistics. The top graph shows Ingress Traffic vs.

Bandwidth, and the bottom graph shows Egress Traffic vs. Bandwidth.

Port Configuration

This view displays external MIB objects corresponding to the DLCI that the port represents. This view is divided into several sections. The Port Information and the External Port Management sections of this view are unique to the StComDLCIPort Model.

The Port Information panel has the following fields:

- Admin Status: This indicates whether a user can create, delete, modify, test, or have write-only privileges for the DLCI port.
- Oper Status: This indicates the actual state of the port.
- In-Service: The amount of time the connection has been in service.
- Congest Mins: The number of minutes in which 50% or more frames are tagged FECN by the port.
- Tx FECNs: The number of frames transmitted out the port with the FECN bit set.

The External Port Management panel has the following fields.:

BC: (Burst Committed) The minimum number of bits that a service provider guarantees for a given permanent virtual circuit.

BE: (Burst Excess) The maximum number of bits that may be sent in excess of BC. These bits are most likely to be discarded during periods of congestion.

CIR: (Committed Information Rate) The minimum rate (bits/sec) of service that a service provider guarantees for a given permanent virtual circuit.

PIR: (Peak Transmit Bandwidth) The maximum rate (bits/sec) that bits will travel.

QIR: (Transmit Quiescent Information Rate) Specifies (in bits/sec) how much data can be sent after a period of silence. This parameter improves performance for bursty data. When a switch receives an initial burst of data from a Frame Relay device, it sends this data out on the network at a rate set by the QIR parameter. This rate is usually set higher than the CIR but lower than the PIR.

MIR: (Minimum Transmit Bandwidth) Represents the lowest information rate (bits/sec) assigned when there is congestion on the network.

Note: Because you can overwrite the external port management values, you can use these fields to illustrate how changes would effect quality of service. To do this, change the appropriate port management value(s), save the change and use the Port Performance view to analyze the results.

Port Threshold

The Port Threshold view establishes levels of activity that will generate alarms. Additional details can be found in the “Managing Frame Relay Networks” section of the ***Frame Relay Manger User Guide (2102).***

Service Information

The DLCI_Port Service Information view provides information about service providers associated with the frame relay network. All service information is entered manually and is provided for reference purposes only. Additional details can be found in the “Managing Frame Relay Networks” section of the ***Frame Relay Manger User Guide (2102).***

StrataCom ATM Integration

The StrataCom ATM integration is available when a SPECTRUM installation includes the Cisco StrataCom BPX8600 and IGX8400 series management module and SPECTRUM’s ATM Circuit Manager.

This integration uses two model types that allow you to effectively model and manage Cisco StrataCom Switches that operate in an ATM environment. StComATMSwApp is the application model type that supports the ATM portions of the STRATACOM-MIB. StComATMLink is a sub-interface model type that allows you to manage ATM virtual connection endpoints on a Cisco Stratacom Switch.

SPECTRUM will create the StComATMSwApp application for any device that supports the STRATACOM-MIB. If SPECTRUM’s ATM Circuit Manager is not installed, several basic views are available for this application. For an explanation of these views, see the *Stratacom ATM Application* on Page 81.

If you have ATM Circuit Manger installed, an additional view is available for the StComATMSwApp and the StComATMLink model type is supported. This additional functionality is explained in the following sections:

- *ATM Link Modeling Options View* (Page 124)
- *Stratacom ATM Link Model* (Page 125)

See the ***ATM Circuit Manager User Guide (3518)*** for complete information on SPECTRUM's ATM Circuit Manager.

ATM Link Modeling Options View

This view allows you to enable or disable the modeling of StComATMLink models for the given device model.

This button can be set to either true or false. Setting this button's value to `true` causes StComATMLink models to be created. The default setting is false.

Config Interval

This value represents the number of seconds between link model configuration.

Clicking this button forces a link model reconfiguration.

Clicking this button will display information on the buttons and fields in this view and show you how to force a link model reconfiguration.

Below are detailed instructions on how to create and destroy StComATMLink models.

Creating StComATMLink Models

1. Model the device that contains the ATM application.
2. Navigate to the Application view and find the StComATMSwApp application icon.
3. Right-click the icon and select **ATM Link Modeling Options.** You may select the **Option Explanations** button to display instructions on screen.
4. Set **Create Link Models** to `true`. Save the change.
5. Click the **Reconfigure Now** button. This will create StComATMLink models.
6. Launch your Device Topology view.
7. Locate a port model which has an ATM link provisioned on it.

8 Go to the port's Sub-Interface view. You will see the StComATMLink models after the reconfiguration is completed.

Destroying StComATMLink Models

1 In the ATM Link Modeling Options view set the **Create Link Models** button to `false`.

2 Save the changes.

3 Click the **Reconfigure Now** button. The StComATMLink models will be destroyed during the reconfiguration.

4 Launch the Device Topology view.

5 Locate a port model which has an ATM link provisioned on it.

6 Go to the Sub-Interface view of the port. You should not see the StComATMLink models after the reconfiguration is completed.

Stratacom ATM Link Model

The StComATMLink model type is a sub-interface model type which represents the endpoint of an ATM virtual connection on a Cisco StrataCom switch. The following sections give a brief description of the subviews available from the Icon Subviews menu for this model type.

The StComATMLink model does not support an ATM Circuit view, and therefore no graphical representation of the circuit that connects to the current link is available. The ATM Threshold view which would allow activity thresholds to be set for alarm generation is also not supported.

Note: Autodiscovery does not support the discovery of StComATMLink models or resolving connectivity to STComATMLink models. However, it is possible to use the ATM Circuit Manager wanimport tool to map connections to StComATMLink models in the same manner as other link models. See the “Creating a Model of the ATM Infrastructure” section of the ***ATM Circuit Manager User Guide (3518)*** for complete instructions.

Model Information

This option opens the ATM Link Information view, which allows you to set polling and logging information for the StComATMLink model. It is possible to configure SPECTRUM to poll link models at regular intervals. When SPECTRUM polls these links it captures the values of various external MIB objects. You can choose to log these

values and use them for monitoring and analyzing performance.

Endpoint Configuration

This option opens the ATM Endpoint Configuration view, which shows traffic parameters for this StComATMLink model. For a definition of each of these fields, see *Endpoint Configuration* (Page 85).

Endpoint Statistics

This option opens that ATM Endpoint Statistics view, which shows which shows the statistics on received, transmitted, and discarded traffic for this StComATMLink model. For a definition of each of these fields, see *Endpoint Statistics* (Page 98).

Service Information

The ATM Link Service Information view provides information about service providers associated with the ATM network. All service information is entered manually and is provided for reference purposes only.

Index

Symbols

% Discarded 103
% Forwarded 103

A

Address
  Interface IP 10
  Physical (MAC) 10, 12
  Translation 11
Admin Status 9, 12
Alarm Generated 107
Application Icon Subviews Menu Selections 22, 70, 81
Application Views 20
Applications 20
ATM Information
  ATM Bandwidth
    ATM Bandwidth Class Table 81
    Other End-Port Table 84
  ATM Endpoint
    ATM Endpoint Table 1 85
    ATM Endpoint Table 2 91
  ATM Endpoint Map 98
  ATM Endpoint Statistics 98
    Discard Statistics Table 99
    Received Statistics Table 98
    Transmit Statistics Table 99
ATM Information - ATM Bandwidth 61
ATM Link Modeling Options View
  Config Interval 124
  Create Link Models 124
  Option Explanations 124
  Reconfigure Now 124

C

CiscoBPX8620 6
CiscoBPX8650 6
CiscoBPX8680 6
CiscoIGX8410 6
CiscoIGX8420 6
CiscoIGX8430 6
CiscoIGX8450 6
Connection View 27
  Entry Creation 31

D

Device Configuration View 104
Device Topology View 19
Device View 8

E

Error Status 32
Event Generated 107

F

Frame Relay 78
Frame Relay Information
  Frame Relay Bandwidth 61
    Frame Relay Bandwidth Class Table 71
    From Other Endpoint Table 72
  Frame Relay Endpoint 72
    Frame Relay Other Endpoint Table 77
  Frame Relay Endpoint Map 80
  Frame Relay Endpoint Statistics 78
    Discarded Statistics Table 80
    Received Statistics Table 78
    Transmit Statistics Table 79

Index

I

Icons
Interface 9, 11
Interface
Type, Device 9, 12

L

LCPV210 Application
Model Information 23, 70, 81
LMI Operation Modes 35

M

Mask 11
Model Information 23, 70, 81
Model Information View 105

N

Network Type 10, 12

O

OID 107

P

Performance
% Delivered 103
% Discarded 103
% Error 103
% Forwarded 103
% Transmit 103
* Frame Rate 103
Performance view 103
Performance views 101
Port Information
ATM Port Config
Status Table 41
Threshold Table 43
ATM Port Queue 44
ATM Port Statistics 45
Error Statistics Table 47
Received Statistics Table 46
Transmitted Statistics Table 47
FR Logical Port Config 33
Status Table 34
Threshold Table 37
FR Logical Port Stats
Error Statistics Table 40
Received Statistics Table 38
Transmitted Statistics Table 39
Port Information - Atm Port Config 41
Port Information - FR Logical Port Stats 38
Port Number, Device 9, 12
Port Performance
% Discarded 103
% Error 103
Load 103
Packet Rate 103
Transmit 103
Port Performance view 101, 103
Port Performance view button
Alarms 103
Configuration 103
Detail 103
Events 103
Receive 103
Threshold 103
Transmit 103
Port Performance view buttons
Detail 103
Purpose of this document 5

Q

Queue Service Algorithm Settings 45

Index

R

Receive Signaling for ABit through DBit 54
Required Reading 5

S

SPECTRUM Views
documentation 19, 101, 103
StCom_IF_Port 11
StComATMLink 125
StComATMSwApp 81, 123
StComCommonApp 22
StComDLCIPort 121
StComFRApp 70
StrataCom Application 22
StrataCom Views
Performance 101
StrataComBPX 6
Strm Error Status 32
Supported Devices 6
Switch Interface Table 27
Switch Media
DS1 IF Stats 51
DS3 IF Stats 51
DS3 Interfaces 48
Sonet IF Stats 52
Sonet Interfaces 50
Switch Media - DS1 Interfaces 48
SwitchShelf Config 23
SwitchShelf Slot Info 24

T

Threshold Information 10
Traffic Classes 63
Transmit Signaling for ABit through DBit 54
Trap Name 107
Trap Registration 31
Entry Creation 31
Trap Support 106
Trunk Information
ATM Trunk 62
ATM Trunk Table 1 62
ATM Trunk Table 2 64
ATM Trunk Statistics 67
ATM Trunk Statistics Cell Table 68
ATM Trunk Statistics Packet Table 67
Frame Relay Trunk 61
Frame Relay Trunk Statistics 66

V

Voice Channel Echo Canceller Values 55
Voice Connection Types 57
Voice Information
Voice Channel 52
Voice Endpoint 56
Voice Endpoint Map 60
Voice Endpoint Statistics 59